

# ITEMS OF INTEREST.

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## ORIGINAL COMMUNICATIONS.

### DENTAL CIVILIZATION.

*By A Traveled English Practitioner.*

The progress of dental surgery since 1840 is remarkable. The "grandeur of Rome and the glorious completeness of Grecian civilization," as eulogized by Gibbon, resolves itself into mere play of words, when studied in the abstract. As practiced by the ancients, the art of dentistry was desultory, unscientific. The preservation of teeth by the brush and toothpick was taught from childhood. Fillings were rare, being comparatively unknown till the second century B. C. Extractions were numerous. Diet figured largely in the prevention of caries. The indiscriminate use of acid and saccharine substances were unheard of, and while "gorgeous banquets" were frequent in high circles, the regular table of the masses was simple—and, contrasted with the variety existing to-day, would be considered coarse.

The Phenicians, Greeks, Macedonians and Romans were extremely careful of their teeth, the latter taking advantage of the toothpick and brush, as used by their illustrious Greek neighbors. Toothpicks were made of silver, but preference given to the wood of the mastich tree. The Laws of the Twelve Tables\* provided for "teeth bound with gold," it being lawful to burn or bury this gold with a dead person.

Artificial teeth have been known for centuries. Horace and Martialis speak of the custom as steadily growing. The charges, however, must have been exorbitant, the luxury being confined wholly to the nobility and wealthier classes. They were principally carved from bone, no system of coloring being employed to conform to original denture. Attempts are recorded of experiments by the Aztecs to apply the principles now in use, but with little

\*The laws of the Twelve Tables resulted from the unanimous voice of the Roman populace calling for some fixed and more appropriate code. In the year 454 B. C. ten ambassadors were sent to Greece to collect the laws of that polished people—principally those of Solon. These were embodied with others previously in force, and engraved on twelve tablets of brass—ten one year, two the next. The Twelve Tables were preserved in the temple of Jupiter Capitolinus. Nothing now remains but a few scattered fragments.

success. Remains, however, of retorts and crude molds of clay fashioned to the shapes of ordinary molars have been unearthed. The Etruscan skull, found in 1885, has a few animal teeth arranged by gold bands in place of natural teeth. Various appliances for the relief of pain date back to the ninth century B. C.

It is comparatively of late years that dentistry has occupied anything like a properly recognized position among the different departments of minor surgery. For long it was practiced as an avocation, but not as a vocation, and without any professional education. Blacksmiths, barbers, watchmakers, and even itinerant peddlers were the tooth-pullers. Even in some of our largest cities, these charlatans were, and still are, found practicing under the very shadow of universities and medical schools. It had not many attractions for medical men, and has not now.

The rapid strides of the dental profession in the United States is evidenced by the present number of dental colleges. America is far in advance of its foreign contemporaries. During my wanderings through Europe and a portion of Asia, the crying need of dental civilization was everywhere manifest. In the crowded hovels of Constantinople, Alexandria, Cairo, Jebba, Jaffa and Antioch, dentistry is almost unknown. American dentists are fairly well represented in Constantinople and the more civilized towns. In Athens, where, centuries ago, Demetrius profaned the Parthenon by his debaucheries, and caused some of his maidens to undergo the indignity of sacrificing two central incisors for his amusement, dentistry is sadly neglected. Only foreigners and a few of the more intelligent natives seemed to take any care of their teeth.

Journeying into the interior, passing through Leopesi, Mandra, Daphni and Menidi, I found but two dentists. Crossing from Attica to Morea, journeying southward through the towns of Corinth, Argos, Nauplia, Tripolitza, Sparta and Kalamata, the profession is poorly represented. Passing through the Suez, Great Britain on the right is fairly well represented; through the Red Sea into the Indian Ocean, touching at Bombay and journeying overland to Calcutta, and northward to Delhi, dentistry is recognized as a dignified profession. Good work is seen everywhere. The officers and families of H. M. I. service, and many of the high caste natives, show evidence of dental care. The masses are particularly clean in this respect, but never visit a dentist till the last moment.

From India I jumped to China, and was immediately shocked by the utter indifference to everything pertaining to even common dental care. Their diet is of such a nature, however, that

caries has been a national evil for centuries. Dentists—such as they are—being held in profound awe, are tolerated more as ornaments than necessities. The officers and representatives of the government, however, are proud of their “possession,” and patronize them as “luxuries.” Japan is far more civilized in dental matters than her neighbor. At Yokohama a regular dental depot has been established for years. Superior work only is tolerated. Good prices prevail, and everything bears a prosperous aspect.

In the inland hamlets and towns of Russia dentistry is hardly known. St. Petersburg, Riga, Vitebsk, Warsaw, Kharvok and the vicinity of Moscow support a fair representation of the profession. Great Britain writhes under spasmodic fits of dental civilization, and awakes from her lethargy about once every year to view the field and note the rapid transformation in surgical appliances. In everything pertaining to surgery, however, English surgeons are eminently superior to any America has yet produced, and are only exceeded by France in celerity and professional aptitude. Three or four colleges devoted exclusively to dental science are established, and many of the medical colleges, recognizing the necessity for special work, have attached a curriculum on dental work in all its branches. It is understood that no dental diploma is yet given by the Royal College of Surgeons in Scotland. Scotland has no licensing body, while diseases of the teeth and adjacent structures are made subjects of lecture and examination in the same manner as other regional and special diseases. A College of Dental Surgery is established at Edinburgh.

In conversation with a fellow traveler—a medical officer on H. M. S. “Camperdown”—he expressed surprise at the tendency of Americans to produce specialists in almost every branch of major and minor surgery and medical science, and hoped that “practitioners of dental surgery would restrict themselves to one branch of practice, be fully qualified medical men.”

The restoration of order from the chaos of antagonism and scorn that enveloped dentistry fifty years ago, has been laborious and thankless. Each invention, till practitioners were educated to the manliness of sympathy, interest and toleration, was received with frowns and impressive contempt. The early promoters of dental civilization labored faithfully, ceaselessly; the mind kept ever before it the eventual emancipation of sufferers from the agonies of toothache, and the indiscriminate ravages of tooth extraction. They received little honor during life, but were overloaded when beyond the scene of mortal action. This system of carving the beneficent results of a faithful life on tombstones, with no substantial recognition during life, is barbarous.

## CENTENARIAN DENTIST.—DR. R. B. BAYNES THE OLDEST MEMBER OF MAINE.

Dr. R. B. Baynes, now almost a centenarian, is in attendance on the meetings of the dental associations, and manifests as much interest as though he had just commenced the practice of the profession, of which he is the oldest living member in Maine, if not in New England.

In little over a year the doctor will be one hundred years old.

He was born in Clapton, near London, England, September 29th, 1795. In his early youth he learned the trade of a watchmaker, at which he became an expert. He came to New York about seventy years ago, and after a few days' stay in the great metropolis, made his way to Newburyport, Mass., where he established himself in his business.

After awhile he resolved to become a dentist. There were no dental schools then, so he betook himself to Boston, where he placed himself under the private tuition of Dr. Henry A. Duvar, a Scotchman, who stood well at the head of his profession, and who afterward returned to England and became one of the dentists of the royal family. In due time Mr. Baynes received the following certificate, which he still retains and prizes very highly :

“BOSTON, January 24th, 1838.

“This is to certify that R. B. Baynes, of London, dentist, on payment of the usual fees, has been instructed in filling teeth on the latest principles now in use in Boston ; and further, that I, the undersigned, have examined with care his work, both under my own eye and elsewhere, and believe it to be as good as any done in America.

“HENRY A. DUVAR, M.D., M.M.S.S.”

Thus equipped he came directly to Belfast over fifty years since, and set up in his profession. While in Belfast he studied medicine under the elder Dr. Payne, and practiced it in connection with dentistry. He remained a number of years in Belfast, making for himself a wide and excellent reputation. From Belfast he removed to Camden, where he lived some years in the practice of his profession. His next move was to Thomaston, where he spent eight years.

He came to Rockland about thirty years ago, where he has resided since. Here, as in previous places, he won distinction as one of the most skilful dentists in the State. Always studious and progressive, he kept abreast of the times till he was well on to

eighty years of age, since which he has done very little in his profession.

He is strongly opposed to the use of any kind of liquor, equally opposed to tobacco and only less opposed to tea and coffee. He lives chiefly on a Graham diet, with fruits and vegetables, with the exception of potatoes. He drinks water, milk and chocolate, and seldom anything else. He has never been in need of a physician's attention since he was ten years old, and never asked for medical advice for himself in ninety years. He has an almost full and perfect set of natural teeth, and though he wears glasses his sight is excellent.

He has not, except when away from home, slept in a bed or even on a mattress for over fifty years. He has a reclining chair of iron frame work, over which he spreads a few comforters and blankets. He always leaves his throat unprotected, and never wears an overcoat. As a matter of fact, he never has a sore throat or suffers from ordinary colds. His general health is still perfect. He is, of course, a little infirm, but not more than many a man forty years younger. He has great powers of magnetic healing.

He has survived all his immediate relatives, and belongs to a past while he lives in the present generation. He is every way a remarkable old man.

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CARE OF THE DECIDUOUS TEETH.—The child receives its first temporary tooth about the fifth month after birth, the dentition being completed at the age of two years. It has been often said that the nurse cannot be too careful that these teeth are cleaned with a soft brush and warm water. The child usually retains these teeth till the eruption of the permanent set, the first permanent tooth appearing about the sixth year. The deciduous teeth should be carefully watched, and when a tooth shows decay consult your dentist, and have it filled. At this stage the filling is not expensive, and will save the child much pain and trouble from an aching tooth. The early extraction of the deciduous teeth often causes the irregularities of the permanent set. They should be retained till the jaw has fully expanded to receive the permanent teeth. Teach the child the necessity of keeping the teeth clean and pure. The early use of the toothbrush will establish a habit that will, in after years, be considered a necessity to health and personal cleanliness.

*J. M. Buckley.*

## INTERSTATE DENTAL PRACTICE.

*D. D. Atkinson, D.D.S., Brunswick, Ga.*

The National Board of Dental Examiners has done and can do much for dentistry, and ought, therefore, to be sustained, though it can have no power except from the State Boards, from which it is composed.

To preserve its influence, it ought not to pass any resolution that would address itself so directly to all State Boards, unless reasonably certain that to be sustained by them.

The resolution seems to contemplate giving the licentiate of a State Board a higher standing than he who holds a diploma of a dental college, in that the first may register at will in any State, while the latter is left amenable to the law, and must undergo an examination whenever he elects to go from one State to another. I am not the champion of dental colleges, nor as opposing State licenses. I believe in that kind of education and qualification that will meet all of the demands of a great and honorable profession, whose integrity is fixed, but, unfortunately, whose dignity is measured in any community by the character of the man who follows it.

Colleges are educators; Examining Boards are not. Both are necessary. One is a chartered, capitalized institution, educating for a monetary consideration; the other, officers of the people, whose duty is to pass on the qualification after they have been educated, of those intending to enter the profession, in many cases without any compensation for their work, and can, therefore, have no other incentive than a desire to serve their profession. I believe both are doing a great work. It was by the influence of the National Board of Dental Examiners that the present educational standard was accomplished. If by that influence the college term has been raised to three years, tell me some reason why that function to be performed by Boards of Examiners should be discontinued, as argued by some distinguished educators. The young man who diligently applies himself for three years need have no fear of the examination given by a State Examining Board, but he who spends his time in idleness, and by a mere chance manages to get a diploma, will find there a barrier over which his ignorance will in vain attempt to ride. The amendment, "provided such license was granted on examination," savors somewhat (as does the whole resolution) of inconsistency. If the National Board has induced the colleges to increase their term to three years, and will not now place any college on its list of reputable colleges which

confers its diplomas at a less term, how can it with consistency sanction the granting of a State license to an individual, who is perhaps a first course student, or never saw the inside of a dental college, thereby doing the very thing it objected to in the colleges and defeating the object of its achievement? If the law permits such licenses, let their validity remain within the confines of their own State, and do not give them that character which a license supported by a reputable diploma ought to have.

A dentist should be educated in a reputable college, that, having after graduation passed a satisfactory examination before a State Board, he should be considered a competent dentist, and be permitted to practice in any State without further examination.

To have a system of uniform requirements it will take more than a resolution of the National Board of Examiners. That Board will have to recommend to the State Boards some plan that will be acceptable to them, and they will in the same pursuit have to get their laws changed to conform to the plan, or else they will be powerless to co-operate.

The dentist who is skilled in his profession will be competent anywhere. His knowledge cannot be hemmed in by State lines. He is a skilled dentist. Practice in Tennessee could make no demands on him, but that he has had the same in Georgia. It is vexing that the man who has been a skilled and fully qualified dentist for a score of years cannot change his residence from one State to another without being examined for competency. Hence this demand for uniformity. The whole profession demands it; let us have it, but let the standard be high; not less than a recognized college diploma verified by a license from a State Board of Dental Examiners.

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I fill all roots immediately, unless in an abscessed condition, with the following:

Oil of cinnamon.....	$\frac{3}{4}$
Gaultheria.....	$\frac{3}{4}$
Carbolic acid.....	$\frac{3}{4}$

Open canal and cleanse thoroughly. Then, with cotton on a broach, pump into it a creamy paste of oxiphosphate, mixed with the above. After sufficient has been forced into canal, make a small cone of oxiphosphate and press home.

*J. W. Griffith.*

## A NEW FORM OF CLASP FOR PLATES, REMOVABLE BRIDGES, ETC.

*Dr. Emory A. Bryant, Washington, D. C.*

Removable bridges (so-called) have been given considerable attention of late, and many new devices have been brought out in the course of experiments. That some have given satisfaction, both to the patient as well as the dentist, cannot be refuted, but most are complicated or too bungling. The attachments between the bridge and the abutments are generally such that the abutments, the keystone of this class of work, are weakened instead of strengthened, ultimately destroying them. This is the reason clasps were either discarded or the teeth to be clasped crowned. This will compel the disuse of these attachments.

The great advantage of immovable bridge-work is the fact that it is immovable, and that the strain and force used in masticating is in the strongest direction—directly on the crown of the tooth used as an abutment. In the case of the “gib,” or any of its modifications, where the attachment is made to the side or proximal surface of the abutment crown, the direction of force is at a point which gives a leverage as well as a lateral movement, the most dangerous we have to confront in operations of this nature.

The telescope crown requires parallel lines in the abutments, and of necessity is limited in its scope. Most other attachments of this class are of a bungling construction, and generally unsatisfactory. The original construction of clasps, for either plates or removable bridges, very seldom give the required steadiness to the denture.

With my clasp, whatever the parallel lines of the abutments are, it firmly grasps the abutment crown, allowing no twisting or lateral motion, and the strain and force are distributed to the parts most able to resist it.

In the construction of my clasp I have combined half of the original clasp with half of the “gib,” adding a catch or lock, which holds to the abutment firmly, allowing no twisting or lateral motion, and retains the denture when once in place, at the same time requiring no great force to remove it.

Fig. 1. Shows the construction of the clasp.

Fig. 2. The parallel bars or guide and lock used in connection with the abutment crowns.

Fig. 3. Abutment crown, showing manner of construction for the reception of the resistance bar of the denture—sectional view.

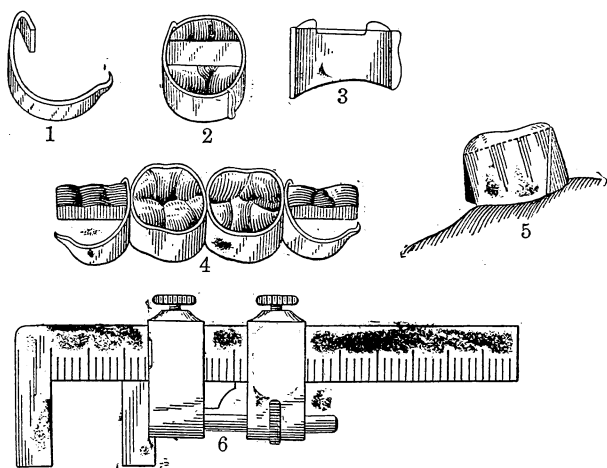


**Fig. 4.** Small denture, with clasps and resistance bar attached.

**Fig. 5.** Showing preparation of abutment crown, which leans forward.

**Fig. 6.** Micrometer used for arranging guide bars.

I use platinized gold for the clasps and irido-platinum wire for the guide bars; the clasp metal not requiring greater thickness than 28 B. and S., gage the guide bars or wire about twice that thickness, which will allow some little trimming in fitting the clasps.



In order to preserve the continuity of the sides of the abutment crowns, I do not solder the cusp the same as for the general crown used, but first fit the band as usual, grinding away enough of the crown of the tooth to allow the fitting of a fairly heavy cusp, the edges of the band coming just even with the top of the tooth, remove the band and solder across the top a thin, perfectly flat piece of irido-platinum plate, using but little solder. Select a cusp suitable, one that is wider than the crown it is to cover by at least a sixteenth of an inch; grind the cusp perfectly even on its flat surface, then saw into three parts, the two outside pieces are waxed on the top of the crown, with the center piece between; the latter is then removed and the crown invested, and the two outside pieces soldered to place, care being taken not to allow the solder to run over the surface which is to be occupied by the center-piece. When both abutment crowns are thus prepared, place them in their position on the cast and mark the positions of the outside guide bars. These must be perpendicular in their relation to each other. For this I use the micrometer shown in the

illustration. Remove the crowns from the cast, and opposite the guide bars mark off for the inside bar or lock and solder the bars to these positions. Replace the crowns on the cast; fit and shape the clasps to position loosely. Strike up the plate which is to fit on the gum. This can be done in any of the numerous ways now in general use. After the plate is fitted, wax the clasps and brace (center of arch) to the plate, remove from the cast and solder. From this point on, depends on the kind of material you desire to use, and that portion is immaterial, as either continuous gum, gold, with bridge dummies, hollow or solid, rubber or celluloid may be used in the usual manner of construction of either plates or bridges; and when filled in by either method, the work is again fitted on the model for the final fitting of the clasp and lock. When in position, mark on the inside bar the position of the clasp at this point, grind out a trifle of the bar for the reception of the end of the clasp, and bend the clasp to fit into it. The work is now ready for insertion. Cement the crowns on their respective teeth, and push the denture to place. Tighten or loosen the clasp lock as is required, in order to keep the denture in position. It will be found there is more danger of the lock being too tight, to be easily removed by the patient, rather than too loose, and you must be governed accordingly. The success of the operation, as usual in all cases, depends on the ability of the operator.

That my form of clasp is suitable and superior to the clasps heretofore used, for the retention of partial lower or upper plates where the teeth to be clasped are crowned, will be readily recognized by those versed in this operation. The plate once in place, cannot tip or drop, and at the same time is easily removed for the purpose of cleaning.

In making casts for this work I use fusible metal, and for striking up the plate use a counter-die of the same metal, burnish a piece of tin-foil over the cast before pouring the counter-die. This prevents the metal uniting. Too much force must not be used in striking up the plate or you will fracture the counter-die, if not the cast—fusible metal being brittle. A horn mallet should be used. If the abutment teeth do not lean inward or outward too much, the guides are the only portion of the clasp which shows on the buccal surface, thus doing away with the unsightly clasp at this point. In case these teeth lean considerably out or in, the clasp is placed on the side opposite to the lean.

This form of denture is only adapted to replace teeth from the cuspid back, though anterior teeth may be added when the main body of the denture is back of the cuspid.

## WHAT IS THE STANDARD IN ENGLAND FOR DENTAL PRACTICE?

License in dentistry is regulated by the Medical Council. Evidence is demanded "of having been engaged in acquiring a practical knowledge of mechanical dentistry, for at least two years, in a public laboratory, recognized by the Council; or three years under the instruction of a registered dentist. The candidate must also submit a piece of mechanical work, certified to be of his own making."

[My, what an advance this is over the requirements of American students! No wonder we are excluded from competition with our English brethren for public patronage. If we could catch the ear of one of these dental dignitaries we would whisper: "Isn't it a shame that though you are thus governed by the dictum of this Medical Council you are not allowed the courtesy of a single representative on the board." What a snub it was when recently the British Dental Association petitioned this august body that examines its dental students to be allowed a representation in the Council, to receive this haughty reply: "With regard to the communication from the British Dental Association, in which it is suggested that one or more dental representatives be added to the Council, the Council is not prepared to adopt this suggestion."

Why do not these English dentists rise to the dignity of an independent profession, as in this country—have its own colleges, make its own standard, and maintain an excellence in its practice that would make them our equals? We could spare enough Yankees to teach them how.—ED. ITEMS.]

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We had a pleasant and profitable visit to Old Point Comfort last month. The kind attentions of the Virginia Society added much to the interest of the two National Associations. The Southern was well represented, and the characteristic feature of these Southern gentlemen made us immediately and continuously "at home." The American Association was also well attended, and was decidedly a representative body. The two Associations included many of the best dentists in the country, and some out of the country.

The ITEMS was made the official organ of the proceedings of the Southern Dental Association. We will begin its publication with our October issue. We hoped to do so this month, but have been prevented. There are some fine essays and discussions.

## CURRENT THOUGHTS.

### GUM LANCING IN DIFFICULT PRIMARY DENTITION.

*Dr. E. C. Kirk, D.D.S*

The question of gum lancing in difficult primary dentition has been the subject of much animated discussion during the past eighteen months. Especially since the publication of a book by Dr. Forchheimer, of Cincinnati, Ohio, on "Disease of the Mouth in Children" (non-surgical), in May, 1892, in which work the author took most positive ground against the operation as a therapeutic measure for the relief of diseases incident to the teething period. His conclusions respecting the operation were tersely stated as follows:

1. It is useless—(a) as far as giving relief to symptoms; (b) as far as facilitating or hastening teething.

2. It is useful only as blood-letting, and ought not to be used as such.

3. It is harmful—(a) in producing local trouble; (b) in producing general disturbances on account of hemorrhage; (c) in having established a method which is too general to do specific good, and too specific for general use.

4. It is to be used only as a surgical procedure to give relief to surgical accidents.

I have quoted these conclusions at length, because they fairly represent the opinions, and the arguments generally put forward by that class of medical practitioners who do not know anything about the operation from practical experience, and still less from an intelligent understanding of the rationale of the procedure.

The subject was further discussed by numerous authors and editors in medical and dental periodicals, and finally Dr. Magitot presented it in a communication to the French Academy of Medicine. In his paper the author took the ground that inasmuch as dentition was a purely physiological process, there could be no such things as "accidents of dentition," or, as we express it in this country, diseases incident to or dependent on dentition. His argument to sustain his position was, like that of Forchheimer, based solely on analytical reasoning from premises which could not be accepted by any one conversant with clinical aspects of the subject.

As a sequel to this discussion of the French Academy, M. Poinsoot, one of the participants, has elaborated the subject in an

interesting volume recently published, entitled, "Accidents of the First Dentition."

It will be seen, then, that the class of practitioners who are antagonistic to the operation of gum lancing are those who, like Forchheimer, object to it because they do not understand why it should be done, nor how to do it—mistaking gum scarification for gum lancing—and those who, like Magitot, oppose the operation as a therapeutic measure because dentition is a physiological process; *ergo*, there can be no disease due to or caused by it; hence lancing the gums for the relief of any disorders intercurrent with dentition is irrational and unnecessary. During the past twenty years it has been my lot to have been somewhat closely related to medical as well as dental work, and to have had rather frequent opportunities to observe cases of difficult dentition, and the effect of an intelligent use of the gum lancet as a therapeutic measure for the relief of disorders incident thereto; hence my faith in the efficacy of the operation is the outgrowth of personal experience as well as observation, and if I shall seem to advocate it somewhat dogmatically, it is because I am convinced that the facts sustain my belief.

The argument of Magitot and his followers, it seems to me, is easily demolished after an investigation of his major premise, viz.: that dentition is a purely physiological process. The answer to this is simply that dentition, while it is generally a physiological process, is not always so, and like all physiological processes, if interrupted or interfered with, may become pathological in its expression. We have only to call to mind the many accidents and fatal pathological phenomena which may attend parturition to find sufficient proof of the utter fallacy of Magitot's proposition.

The eruption of a tooth is a complex process, and includes a number of factors which, when they proceed harmoniously, produce no untoward results, and the teething process in its physiological expression is unattended with disturbances to the health status of the infant. A perfectly normal process of dentition rarely occurs. There is generally a condition of nervous excitation attendant on the teething period, which in many cases is so slight as to express itself only as a somewhat increased nervous irritability in the child, productive of wakefulness, etc. Or the nervous irritation may be so increased in degree as to cause the most alarming and even fatal consequences. The period of teething is generally made manifest by this increased nervous irritability, and an increased flow of saliva from the mouth. The gums may be variably congested over the presenting teeth, the positions of which are usually clearly discernible by reason of the gum being

elevated and made tense by the erupting tooth crown beneath. The tumefaction or congestion of the overlying gum may be entirely absent, even in cases where the most profound nervous manifestations are present, due wholly to the peripheral nervous irritation caused by the advancing tooth. It is this class of cases where the local manifestations are but slight, and the general disturbance is profound, that has been the cause of the controversy which has been waged around the question of gum-lancing. Those who hold to the belief of Forchheimer deny that any relief of general systemic disturbances can follow the operation in such cases. Where they have to deal with a case presenting a congested condition of the gum tissues, they admit that the operation may be useful by letting blood, but no further. The explanation of this belief is not far to seek—it is caused by the fact that they understand the operation of gum-lancing to mean a superficial scarification of the gum tissue, to empty the congested vessels of the parts, and so reduce the local hyperemia.

I have taken some pains to investigate when opportunity has offered, and I have never found an operator who objected to gum-lancing who did not have exactly this conception of the operation. This is gum scarification, and not gum-lancing. Gum-lancing is a totally different procedure, undertaken not for the relief of congestion of the gum, but for the purpose of freeing the tooth from restraint by the unyielding gum which covers it, causing backward pressure of the undeveloped tooth-root on the formative dentinal papilla at its base; the irritation of this latter is the cause of the nervous disturbances which it is the purpose of the operation to relieve. The conditions which demand relief by gum-lancing are graphically told by the late Dr. J. W. White, in the *American System of Dentistry*.\*

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\*The direct pressure of the advancing tooth on the fibrous integuments is not the only nor the principal factor in disturbance of equilibrium in pathological dentition. The most serious complications are, it is reasonable to suppose, caused by the resistance of the gums, and consequent pressure on the nervous and vascular supply of the pulp, giving rise to severe and unremitting pain—a true toothache, comparable only to that exquisite torture which is experienced in after-life from an exposed and irritated pulp. The condition, when a tooth is thus situated, is not unlike that which is found in whitlow, vascular and sensitive tissues bound down by unyielding coverings. If such a perversion of this physiological process is possible, there can be no question as to the extent of the mischief which may result—an irritability of the general system which finds expression in loss of appetite, sleeplessness, nausea, thirst, fever, diarrhea or constipation, convulsions, paralysis, and other serious lesions, many of which, as strabismus or epilepsy, remain throughout life.

If, then, morbid symptoms coincident with the teething period manifest themselves, and their history and character point to a dental origin, the operation of dividing the gum over the presenting tooth should be so performed that the crown shall be completely freed from its imprisonment by the overlying tissues. It is frequently necessary to include in the operation not only the teeth immediately presenting, but those next in order of eruption in each jaw. If the operation has been properly done, it should be followed almost immediately by improvement and instant relief to the nervous distress.

The operation is quite simple. The child should be placed on a pillow, lengthwise, supported on the lap of the nurse or assistant, seated on a chair facing the operator, and with the back toward the source of light, which should come preferably from a north window. The operator seats himself in front of the nurse, with the end of the pillow supporting the child's head in his lap. He then has command of the territory of operation, and can, by holding the child's head, guard against any sudden movement. The hands and body of the child are to be firmly held by the assistant. The best form of lancet for the operation is a small, curved bistury, such as is sold at the depots for the purpose, but with the needle-like point ground off to a small, but keen, rounded edge. The lancet is to be passed through the overlying tissue till it is felt to come into contact with the enamel surface, and the tissue divided a sufficient distance to allow the tooth to erupt without resistance.

For the incisors a single linear cut along the incisive edge is sufficient; for the cuspids and molars a crucial incision is required. The operation is not excessively painful, and the pain is reduced to a minimum when a properly-sharpened knife is used dextrously. Little hemorrhage follows, but if persistent, some slight styptic, such as powdered alum or phenol-sodique, may be used.

Nearly all medical writers agree that the teething period is one fraught with danger. Statistics show that the percentage of infant mortality is markedly higher during teething. A long series of infantile disorders occur most frequently during that period, and while recognizing this coincidence we find many otherwise intelligent practitioners ignoring the possibility of a casual relationship between these diseases of infancy and the teething process, and, consequently, condemning the operation of gum-lancing, not only as useless, but dangerous.

A recent work on "Diseases and Injuries of the Teeth,"\*

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\* Messrs. Morton Smales and J. E. Colyer, London.

contains the following suggestive statement: "Many healthy children pass through this period without any untoward symptoms, but many succumb, as may be gathered from the tables of mortality, teething being the cause of over 4.8 per cent of deaths in children under 12 months, and 7.8 per cent between the ages of 1 and 3 years." These same authors, however, notwithstanding this statement, are inclined to regard gum-lancing as not useful except as a blood-letting measure. I have been unable so far to find any reported case of fatal accident from gum-lancing, nor have I knowledge of any untoward result occasioned by it when correctly performed. It is quite true that no precise scientific demonstration by the microscope, or by post-mortem examination, has been made to settle the question of the exact rationale of the procedure pro or con. The conditions are such that it perhaps never can be made; but this same objection might be as potently urged against many other well-established therapeutic measures in constant, legitimate use.

The value of gum-lancing in difficult dentition is established almost solely on clinical evidence, though it is difficult to understand why the perfectly plausible hypothesis of the rationale of its action should be rejected by its opponents as imperfect, when that set up by them in rebuttal is so manifestly illogical and inconsistent. Clinical evidence depends for its value on the character and relationship of the phenomena observed, and the frequency with which certain related phenomena repeat themselves under similar conditions. If, for instance, infantile convulsions occurring co-incidentally with difficult or delayed eruption of the teeth are found to be relieved by a judicious use of the gum-lancet, and a favorable result is obtained invariably in a number of cases so treated, we should be justified in assuming the casual relation between difficult dentition and infantile convulsions within certain limits, and be justified in the use of the lancet as a therapeutic measure for their relief. This relationship has been repeatedly observed. I have in several instances seen teething children, where convulsive seizures had supervened till the child was almost comatose, relieved at once, and veritably snatched from the jaws of death by freely dividing the gum over the retarded teeth.

But convulsive seizures are not the only pathological result of delayed dentition. The irritation caused by the advancing tooth is but slight at first, and extends over a considerable period of time. The impress on the nervous system of the child may be comparatively slight, so that its expression may not be manifested in the explosive outbursts of the nervous system which we know as convulsions. The nervous stress is more commonly manifested



in loss of appetite, impairment of the digestive function, and nausea. Impairment of the digestive function, due to interference with the innervation of the stomach, whereby the food ingested becomes itself a source of irritation through the establishment of fermentative processes throughout its mass, leads to and is accountable for the train of intestinal disorders, infantile diarrheas, intestinal catarrhs, etc., which so often accompany the teething process, and constitute the bane of mothers in rearing their children through the much-dreaded second summer. Where the digestive sequelae of pathological dentition have established themselves, the lancet cannot be expected to effect a cure unaided. Its use should be followed by appropriate constitutional treatment.

The close relationship of difficult dentition and capillary bronchitis in infants has frequently been noted by medical writers and practitioners, but the idea of pathological dentition as a predisposing, not to say exciting, cause, seems to have been overlooked till recently, notwithstanding the fact that in very many of the fatal cases of croupous pneumonia in young children, there has been a definite history of difficult dentition immediately antecedent to the pulmonary attack. Recent observations lead me to suspect that in these cases the antecedent condition of difficult or pathological dentition has been the cause which induced the subsequent attack of capillary bronchitis.

In this connection it may be well to call to your attention the investigations recently published by Dr. Emil Schreier, of Vienna, with respect to the nature of the infecting organism in apical periodontitis. This observer found in all the cases of apical inflammation about the roots of teeth which he examined, twenty or more in all, the diplococcus pneumonia, invariably present as the exciter of the inflammatory process. This is in line with Miller's investigations, which showed that the diplococcus pneumoniae was a constant inhabitant of the mouth. As a further link in this particular chain of evidence, Dr. C. N. Peirce recently recounted to me two cases of incipient croupous pneumonia which occurred at different times in a family who were patients of his. In each instance the child was suffering from difficult eruption of the teeth, and in each case croupous pneumonia was set up as a sequel. In both cases Dr. Peirce performed gum-lancing, and in both cases there was subsidence of all the distressing symptoms in a few hours, with rapid and complete recovery. To any one who has investigated this subject, especially from the clinical standpoint, there can be no doubt as to the great utility of the operation in relieving in many cases the most alarming symptoms. It is simply and easily performed, and there are no weighty objections which can be urged against it.

It may be asked, of what interest can the question be to the dentist, who is seldom, if ever, called on to operate in these cases. To this I would answer, prepare yourselves by an intelligent understanding of the operation, and its correct relationships, and you will be consulted when it is known you are competent to give competent judgment. Or if the knowledge has no usefulness outside of your immediate family, it may still afford you the opportunity to save the life of some one dear to you, as I verily believe it has on more than one occasion in my own family circle.

*Practitioner.*

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### THE STORAGE BATTERY OF THE AIR.

The potential electricity of the air, and its possible value to civilization, is the subject of a short popular article in the July *Harper's Magazine*, by Alexander McAdie, of the United States Weather Bureau. The air, he says, will stand a strain of about nine thousand six hundred grains per square foot before breaking. That is, the flash will occur when the electrical pull amounts to this, 1.37 pounds per square foot. For the energy of a cubic mile of strained air just before the flash we have, then, about seventy million foot tons. The average thunderhead or cumulonimbus cloud is not a mile high, however. For a small cloud, one a hundred yards square, and distant only a quarter of a mile, we would get about three hundred horse-power. Now a flash even a quarter of a mile long means a potential of many million volts. We cannot at present measure this directly, but we can determine the potential of the air within certain limits on any day, thunder-storm or no thunderstorm.

In 1885, at Blue Hill Observatory, and in subsequent years, we measured the potential of the air with insulated water-dropping collectors, after the methods of Thomson (now Kelvin) and Mascart. The top of the hill is six hundred feet above the surrounding country; but with Franklin's idea of reaching out a little farther from the earth, I ventured to use at times a large kite, tin-foiled, and for kite-string some five hundred feet of hemp fish line, wrapped about with fine uncovered copper wire. During thunderstorms the sparkling and sizzling at the electrometer end of the kite-string were incessant and startling. And even on cloudless days I found it possible to draw sparks, reading at the same time on the electrometer from minute to minute the electrification of the air in volts. In 1886 and 1887, in some investigations carried on by the Chief Signal Officer, and more immediately under the

supervision of Professor Mendenhall, I experimented at the top of the Washington Monument, at that time the highest edifice in the world. The investigation continued many months, but perhaps days on which severe thunder-storms occurred were most impressive.

It being beyond dispute that high potentials can be obtained from the air, the question naturally ensuing is, Can we not use them? With three or four sparks a large fruit jar can be cleared of smoke with which it has previously been filled. Perhaps nature repeats this on a large scale with lightning, and clarifies a foul, dust-laden atmosphere with these great sparks. It may be, too, that these flashes are all needed, and to attempt to divert them would be unwise. Be that as it may, we are living in an age of "step up" and "step down" transformers; an age when, for the first time in centuries, we are perilously near duplicating lightning. Till recently we studied lightning only in miniature. Professor Elihu Thomson was kind enough to show me in his Lynn laboratory, two summers ago, some of his larger home-made lightning. Indeed, potentials of 100,000 volts are less rare to-day than potentials of 5,000 volts were five years ago. All who saw the Thomson and Tesla exhibits at the Electrical Building, Chicago, will easily believe that it is within our power to turn the fleeting, high-potential lightning into a current of lower potential and use it.

Professor Trowbridge, of Harvard University, in a discussion of some photographic negatives, shows that "the discharge follows exactly the same path in air for three hundred thousandths of a second," and adds that "it is probable that an ordinary discharge of lightning of a few hundred feet in length could light for an instant many thousand incandescent lamps if it were properly transformed by means of a step-down transformer.

The eye alone cannot give a complete history of the myriad minor flashes during a thunder-storm. The charred, though to us intensely brilliant, crack in the air which we call lightning is but a great splash in the ether ocean. The waves and ripples come tumbling along in all directions, spreading rapidly—aye, very rapidly—nearly two hundred thousand miles per second. Given a proper resonator, and the waves will do work. If my reader keeps every sense on the alert, he may happen on some strange illustration of work done by lightning, now all unsuspected. In the tinkling of the telephone bell, the blinking of an incandescent lamp, the melting of a fuse, or the tiny spark from a gas-pipe or a loose wire, is the constant proof that there are more things going on between heaven and earth during a thunder-storm than most of us dream of in our philosophy.

## TO PROPERLY ARTICULATE A SET OF TEETH.

*J. G. Templeton, D.D.S., Pittsburg, Pa.*

Having to make a full upper set of teeth, we will suppose the impression and model to have been made in the usual way. Take modeling composition, soften and flatten it out till it is about a quarter of an inch thick; press it on the model while warm, and then cut and trim to make a trial plate for the purpose of taking a bite. It should accurately fit the model. Melt a little wax around on the ridge, then press a roll of softened wax on that, and trim to what you think would be a sufficient length, then try in the mouth and carefully trim the lower edge to the proper length for the teeth; if it is not, either add to or cut away till it is found by trying in the mouth that the wax represents the proper length. This wax should be so cut on its articulating surface that all the lower natural teeth will strike it at the same time when tried in the mouth. Now remove and soften the articulating wax surface just a little over the flame, then replace in the mouth, and do not let patient bite into it till you have the head drawn well back so as to put the anterior muscles of the neck on a stretch; then have the patient bite a little on the wax just to get an impression of the cusps and cutting-edges of all the lower teeth. Next take an accurate impression of the lower teeth, from which to make a plaster model, which will fit into the slight impressions of the teeth made in the bite taken, and then place the whole on any good articulator which can be set to maintain the relative positions. Remove the bite, and you are ready to set the teeth to a correct articulation; and if all has been carefully done, the teeth will come together properly without any subsequent grinding.

For a double set (upper and lower) make trial plates of modeling composition to take the bite on, putting a piece of rather stiff wire in the lower one to stiffen it. Wax the ridges as previously prescribed. Place a roll of softened wax on the upper trial plate, place the lower trial plate in the mouth, being careful to see that it is in its proper place, and hold it there while putting in the upper plate with the wax on it. Do not allow the patient to bite till the head is drawn back as far as you can get it; then tell the patient to bite, and keep the jaws closed till with one finger the wax has been well pressed on to the trial plates. Mark the center or median line on the wax. Have patient close the lips, and then take a small, straight instrument and mark on the wax the height of the lower lip. This mark should extend from one angle of the mouth to the other; you then have the line of fissure or line of lip-closure; in

other words, the height of the lower lip and length of the upper—to serve as a guide in making the wax models. After thus taking the bite, place each of the models in the bite so obtained, and fasten in any good articulator; then prepare corresponding wax models, which should be tried in the mouth to verify their correctness. They should come together in the mouth the same as on the articulator, and if they do not they should be made to do so before proceeding further. Take pains to be satisfied that the wax models are correctly adjusted, and give a natural expression to all the facial features, observing that the lower third of the wax model is in proper proportion or length with the upper two-thirds, and be sure to produce the proper fullness over the region of the upper cuspids to give as near as possible the natural contour. Then take the upper and lower plaster models off the metal articulator, and make a plaster extension to the back part of the upper model, on which place the wax models, which have been marked while in the mouth so that they can be put in the same position out of the mouth. The lower plaster model is placed in position, and a plaster extension added to fit to that of the upper plaster model. After separating these, the lower wax model is placed on the lower plaster model, and the inside space filled with wet paper, and plaster is poured over all to make the lower articulating plate to which the lower teeth are to be set. Next place the upper model in position, and set the upper teeth to the lower ones; which have just been set to the lower articulating plate, and when ready for flasking, if for vulcanite plates, saw off articulating ends. Always set the lower teeth first.

Having made double sets in this way for twenty-five years without having to do any grinding after placing them in the mouth, I think that I have some claim to the conclusion that this method is a pretty good one.

Dr. F. Jay Raymond writes to tell me that he has used my method with unvarying success, employing also gutta-percha base plates instead of the modeling composition. He uses a rubber-dam to keep the mixed plaster from the bench when forming the plaster articulator extensions.

*Dental Cosmos.*

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I do away with taking more than one bite for a set, or partial set of teeth. Thus, when the wax is put in the mouth, make the patient place the chin on the breast, head forward, and then bite down. If it is not correct, then charge it to me.

*C. D. Royall, Savannah, Ga.*

## WEDGING TEETH WITH RUBBER.

This is still probably the most common way of obtaining the necessary space for making proximal fillings, and is the means of inflicting a great deal of unnecessary pain. The practice of inserting the rubber to be worn for days, and sometimes weeks, before operating on the teeth, is cruel, barbarous and unscientific. The object is just as thoroughly accomplished in a few hours, when gutta-percha may be pressed tightly between the teeth that have been forced apart, which will retain the separation and allow all periodical disturbance to heal.

Our practice for years has been to have the patient adjust the rubber early in the morning, and report to us at 5 o'clock in the afternoon for the gutta-percha substitute. The thickness of the rubber supplied the patients is determined by the space required. The gutta-percha is worn for ten days or two weeks, when all soreness has entirely disappeared. The gutta-percha serves the double purpose of retaining the space and pressing away the gum from cavities which extend well down toward the cervical margins. The cavities are partially prepared, the dam applied, and a separator adjusted to hold the teeth firm during the introduction of the fillings. We know of no more satisfactory means of separating temporarily, and none less free from pain or danger. *Register.*

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FILLING PULP CANALS.—What the profession needs is a universal system of root-filling that is at once simple, efficient and inexpensive. This I have to offer you in a saturated solution of aristol in chloroform used in connection with gutta-percha points. The idea is not my own, I merely claim a few details.

All pulp canals should be made accessible, and be thoroughly cleansed and dried. Then apply the aristol mixture through a capillary dropper into the pulp chamber, having the patient in such position that gravitation will aid in pumping the mixture all through the canals. Be certain you fill each canal with the mixture, and have no fear if you force a small quantity through the foramen. Now select a gutta-percha point about the size of the canal and force it with a quick motion, for if you are slow the chloroform in the mixture will dissolve the attenuated point intended to seal the foramen. Clean your margins with a piece of cotton wet with chloroform, and leave the cavity open while preparing the filling material that all chloroform may evaporate. If this is too slow, blow warm air into the cavity. This embodies all the requirements of a perfect root-filling.

*Georgia Practitioner.*

## WHAT EDISON IS TRYING TO DO.

"I'm not ready to talk about what I am doing yet," he said, "but when I do get ready I shall blow like a 300 horse-power boiler. If I can succeed in making the ores of this region (northern New Jersey) marketable, it will bring the iron industry back to the East. There is more iron in this deposit than there is in all the rest in the United States. The trouble with it is that it is poor. It runs from twenty-eight to thirty per cent of iron, and the furnace men won't put a piece into their furnaces that is poorer than forty per cent. In that ledge alone"—and here Mr. Edison pointed to the open mine—"there are 800,000,000 tons of iron. What I aim to do is to crush that rock, take out the iron, make it into bricks, and send it to the furnaces. I shall make either a gigantic success or a gigantic failure. That mill will crush 500 tons of rock a day. It is bigger than all the gold ore crushing mills in the country put together, and there are presses in there which will take a three-ton piece of rock and crush it like that"—and Mr. Edison pressed one fist into the other hand. "The iron men," continued he, "say it can't be done. That only proves the importance of doing it. I think I can do it."

What Mr. Edison is trying to do is as simple as A B C. He proposes merely to crush the mountains into fine powder, take up all the iron and sort it out with magnets, and dump the surplus sand over the mountain side out of a chute. Take a little piece of the rock, a hammer and a magnet, and you can do it all. The trouble begins when you try to do it on a commercial scale. That is why Mr. Edison is toying with such big works. It won't be necessary for him to announce the result of his work in any way but to put that mill in continuous operation. When he grinds up 500 tons of rock a day and ships 100 tons of fine ore to the furnaces, no one will doubt that it is being done at a profit. *Sun.*

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Dr. J. Allen Osmun says in *Cosmos*: "Pyorrhea is not curable. That the best that can be done is to control it." With all due respect to Dr. Osmun, the statement he makes is simply a fiction. If he had said it was not curable in some patients where predisposing causes are active, and where the disease has progressed till the graver stages were encountered, then no fault could be found with the statement. If New Jersey men cannot cure pyorrhea, they should take a trip West, where they can be better taught.

*Western.*

## FILLING ROOTS WITH CHLORO-PERCHA.

*Dr. R. I. Blakeman, New York.*

This solution, depending on the degree of fluidity, is very permeative. In getting it on your fingers, you have doubtless noticed how it penetrates the fissures of the skin, and how difficult it is to remove at the time without the aid of a solvent. If an instrument be dipped into it, especially one that is a little rough, the gutta-percha adheres to it very closely, and remains so after the chloroform has evaporated. It sticks to the smooth surface of glass as well, and also to tooth-structure. It answers nicely to line gold with against which amalgam is to be placed, so that the gold may not be affected by the mercury. When the fluid is very thin, it seems as susceptible to capillary attraction as water. Therefore, as some of the canals we wish to fill are very fine, and we feel that they must be filled, as on this largely depends the future welfare of the tooth, to fill them with this solution seems practical so far as the principles of physics are concerned. For the purpose of describing the process of manipulation, let us consider a molar, the roots of which must be filled from a posterior cavity difficult of access, a somewhat common occurrence. When the roots are dry and ready to fill, it is best to add some fresh chloroform to the solution kept on hand, so that the upper portion is quite thin, while the lower is left very thick. Then with a small broach, with a few fibers of cotton wrapped about the end, the solution can be carried to the canals, and, when the entrance to them is flooded over, it can be pumped in with a small bare broach.

After the canals are full of the thin solution, by dipping deeper into the supply the thicker gutta-percha is obtained, which can be pumped into the canals in like manner, the chloroform being worked out so that it can be evaporated with the chip-blower. If there should be a doubt as to the fluid having gone to the apex of any canal, it can be pushed further by making a piston of warm gutta-percha. But great care should be taken in doing this, and the patient should be instructed to respond to the first sensation, for sufficient force may be brought to bear unconsciously to push the fluid through the foramen. When the canals are sufficiently large to permit of it, it is best to put in a gutta-percha point after they are full of the solution, but not so tight as to cause pressure at the end of the root. It might be well to emphasize this point, as any one not accustomed to filling roots in this way is liable to force something through the apical foramen.

*International.*



## ARTIFICIAL SILK.

The difficulties attending the production and utilization of artificial silk appear likely to be overcome, one by one, and the ingenuity by which these results are accomplished is indeed striking, particularly that exhibited in securing the necessary hardness. The collodion issues in a thread of extreme delicacy—six being required to make a strand of the necessary consistence for weaving—but this thread, owing to its viscosity and softness, is not fit to be rolled on spools, the substance being still collodion and not silk. Now, to produce the hardness desired, a very unique but simple method is resorted to—that is, the little glass tube which forms a part of the mechanism is surrounded by a small reservoir of the same material constantly filled with water, and when the thread issues from the aperture mentioned it traverses this water, which takes up the ether and alcohol, and the collodion becomes solidified; or, in other words, is transformed into an elastic thread, as resisting and brilliant as ordinary silk. Again, on account of the materials employed in the manufacture of such silk—wood, ether, and alcohol—the stuff produced has been supposed to be dangerously inflammable. Such a contingency is now obviated, it seems, by simply plunging the spun thread in a solution of ammonia, thus rendering it as slow of combustion as any other material.

*Sun.*

## NOSE AND THROAT.

In a recent lecture before the Chemists' Assistants' Association, London, by William Hill, M.D., London, the throat was described in detail, and the pharynx and the larynx pointed out as the two most important parts. The nose has a very important connection with the throat and its disorders. It contains a series of bones called the turbinated bones, which expose a large surface of warm blood, and cause the air inhaled to be warmed ready for the lungs; moreover, the cilia of the nose cause the secretions to move, and reject the solid particles it has collected. The nose is the proper organ for breathing, not the mouth. The larynx which is the air passage, is bounded at the upper extremity by the vocal cords, and has, therefore, the double function of breathing and of phonation. The epiglottis, by altering its form, causes the food to pass down the pharynx, and keeps it from the larynx. In speaking of proper breathing, the author pointed out that diaphragmatic breathing was the proper method, and not

clavicular. It was reported that Rubini had broken his clavicle during singing, by persisting in this method of breathing. Throat diseases are often caused by germs, by inhalation of sewer gas, etc. Fortunately there are other organisms in the throat always ready to attack these germs. The throat is well provided with tonsils, both faucial and lingual. The tonsils produce phagocytes, or leucocytes, ameboid corpuscles which actually swallow up the germs. Why, then, should tonsils be cut out? Because, when they become enlarged and horny, they lose this function, and by removing the horny surface, the newly-exposed portion can go on producing the corpuscles. The decay of teeth is largely due to germs. This shows the importance of keeping the teeth in order. Obstruction in the nose is the cause of many throat disorders. Care must be exercised in the use of both alcohol and tobacco. People liable to throat disorders should be very chary of eating piquant or hot dishes. Irritating remedies, too, such as cayenne and (except in special cases) tannin lozenges or nitrat of silver, should be avoided. Hot tea, too, is bad.

Headlight.

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DEVITALIZING PULPS.—An article in a recent copy of *The Dental Office and Laboratory* says, "The uncertainty attending the use of arsenic for devitalizing pulps often makes its use unpleasant and unsatisfactory." The writer's experience and my own are at variance. It is the rarest thing in my practice, that for arsenic paste (the ordinary kind furnished for us by the dealers), not to do all for me that I expect of it. It has never proven "uncertain," when I was satisfied with the application. The method of applying the paste has much to do with the result. There must be access and exposure. I always see the pulp either direct or by reflection. Then I thoroughly dry the cavity and apply directly on the pulp two or three small crystals of hydrochlorate of cocain, waiting for the exudation from the pulp to dissolve the crystals. Then put the arsenic in direct contact with the pulp, a little pressure not giving pain because of its anethetized condition. Cover the paste lightly, filling the cavity with dry cotton and sandarac varnish, letting the paste remain ten hours.

If those practitioners who insist on two or four days' application would try the ten-hour plan on a direct exposure, they would have less peridental inflammation. The reason for desiring a good exposure is because, when there is inflammation of the pulp, there is swelling, which gives rise to the intense pain following the ordinary application of arsenic. Remove one of these walls and you mitigate the pain.

Georgia Practitioner.

## AMERICAN DENTAL COMPETITION.

The *Cosmos* publishes the following expression of opinion from an English contemporary. It possibly exhibits correctly the animus of the recent protective legislation by the General Medical Council of England. We are not informed as to the opinions of English dentists, but so far as those of America are concerned, there is a widespread belief that the reason given by the *Medical Press* is the milk of the cocoanut:

The *Medical Press* has awakened to the fact that the General Medical Council is "making itself the servant of the British Dental Association," especially in regard to the refusal to register American dental diplomas. This course was taken, as was pointed out in *The Chemist and Druggist* months ago, because the American universities have notions lower than the General Medical Council in regard to preliminary education. Our contemporary advances another reason, viz., that "the British Dental Association has found the professional competition of the American registered dentists to be inconvenient, and it has put pressure on the General Medical Council of sufficient force to secure the disfranchisement of all foreign dentists and the abrogation of the powers of the Council in respect to foreign registration." There may be something in this. What do the dentists say to the charge?

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## A RUST PREVENTIVE FOR IRON PIPES.

For the protection of sheet iron pipes from rust, tarring is now largely resorted to as a method alike simple, economical, and effective. The sections, as made, are for this purpose covered with coal tar, and then filled with light wood shavings, and the latter set on fire; the effect of this treatment, it seems, being to render the iron practically proof against rust for an indefinite period, and rendering future painting unnecessary. In confirmation of this, the instance is cited of a chimney of sheet iron erected in 1866, which, through being subjected to this treatment, is bright and sound to-day as when erected, though never having had any paint applied to it since. It is suggested that by strongly heating the iron after the tar is laid on the outside, the latter becomes literally burned into the metal, closing the pores and rendering it rust-proof, in a far more complete manner than if the tar itself be first made hot and applied to cold iron, according to the usual practice pursued. It is a matter of importance, of course, in carrying out this method with iron pipes, not only that the iron should not be made too hot, but that it should not be kept hot for too long a time, lest the tar be burned off; and hence the desirableness of using light shavings instead of any other means of heating.

Sun.

## CARBOLIC ACID.

[The following letter from Sir Joseph Lister, giving to carbolic acid as an antiseptic preference over the bichlorid of mercury, will be read with interest and much satisfaction by many dentists who have persistently advocated it and used it exclusively for the treatment of devitalized teeth.—ED.]

GLENELG, N. B., September 24th, 1892.

*My Dear Sir* :—Your letter has been forwarded to me to this place. I have no hesitation in answering your question to the effect that the presence of the minute quantity of free chlorin cannot possibly interfere with the antiseptic action of the bichlorid. If it had any effect at all, it would be to enhance the antiseptic efficacy. It might possibly make the solution act slightly more on the steel of the instruments. I may remark that, as the result of recent investigations, I have for some months past abandoned the use of the bichlorid in favor of our old friend, carbolic acid. It has been shown that a 1 to 40 solution of carbolic acid is really superior in actual germicidal power for such organisms as cause inconvenience in surgery, as compared with any solution of bichlorid that could be used for surgical purposes. Believe me,

Sincerely yours,

JOSEPH LISTER.

P. S.—For purifying instruments and sponges, and the skin of the part to operate on, a 1 to 20 solution of carbolic acid is, of course, used. J. L.

Though Sir Joseph Lister has abandoned the use of bichlorid of mercury in favor of carbolic acid, the former is still largely used, though we may expect many to follow the example of the great surgeon in giving it up. There appears to be some uncertainty as to the effect of heat on aqueous solutions of mercuric chlorid. In "Martindale" there is a statement, concluding with a note of interrogation, that "heat reduces the salt to calomel." Mr. Rushton Parker, one of the honorary surgeons to the Royal Infirmary, was anxious to be assured on this point, and as the results of many experiments, performed quantitatively, Mr. Johnson could not detect the slightest reduction of the chlorid in such solutions as 1 in 500, 1 in 1,000, 1 in 2,000, etc., even after submitting to prolonged boiling.

J. R. Johnson, in *Chemist and Druggist*.

Thousands of brains are pregnant with great possibilities in art, music, literature and general philosophy, but birth is crushed, and the murder completed by the complacent self-satisfaction of benign ignorance, while the "one who knows it all" grinds his teeth in the agony of self-completeness, because, Alexander like, there are no more worlds to conquer. Such men are rank obstructionists, their actions barbarous.

## DIED WHILE HAVING A TOOTH EXTRACTED.

A negro woman recently died in Macon, Ga., while having a tooth extracted. The woman had been suffering severely from an aching tooth, and to get relief her husband called in a physician. It had been the custom of this doctor to administer chloral to lessen the pain in extracting teeth, and in this case he gave the woman fourteen grains. While waiting for it to take effect he visited another patient, and on his return found the woman stupefied. With the assistance of the husband he then proceeded to extract one of the teeth. While extracting it the woman struggled and screamed. The husband pointed out to the doctor another offending tooth, and insisted on its extraction. She resisted and struggled, but the husband held her while the doctor extracted it. She became quiet, but it was soon discovered she was dead.

*Dental Luminary.*

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Is it always necessary to take out the pulp and cleanse the roots before filling? Is a tooth that is not properly and perfectly cleansed before filling always bound to give trouble? I think not. For twenty years and more I practiced filling roots with cotton, saturated with creasote. During the last five or six years I have not done that much—I have used gutta-percha more; but I am free to say that the change in method has not produced any very great change in results. In treating the pulp cavities of devitalized teeth, whether it is done perfectly or imperfectly, we can never say that the devitalized tooth is safe, will never give trouble. We are always limited when working on a living being. We have an idea, and the best we can do is to get as near to it as circumstances will permit.

I would not for one moment say a single word that would tend to lower the standard of practice; but we must remember that we are human, therefore limited by the physical condition of the patients, who sometimes cannot bear long and severe operations. Sometimes, we have to stop short of the best we can do, or might do under different circumstances where we have a fair chance.

*Wm. H. Trueman.*

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W. H., aged thirty-two years, had a deciduous cuspid extracted in February. At the end of two months, a well-formed cuspid had taken its place.

*J. R. Megraw, D.D.S.*

## A FATAL CASE IN PRACTICE, BUT NOT OF COCAIN POISONING.

On March 28th, ult., Mr. Thomas H. Dailey, a prominent citizen of Goshen, Indiana, died in the office of Dr. B. P. McDonald, a well-known and highly respected dental practitioner of that place, after the hypodermic administration of not above ten minims of a preparation of cocain, made from the formula published in this journal in its January, 1894, number. It was at once reported that the patient died of cocain poisoning. The case is an interesting one, and the publication of the whole particulars may be very instructive to others. We therefore devote to it more space than under other circumstances it might claim.

The fact of the death, with the amount of cocain administered and the principal symptoms exhibited by the patient, were at once communicated to the editor of this journal, and he immediately returned answer that it was impossible that the fatal results were those of cocain. The symptoms did not indicate this, and he expressed the conviction that there would be found, on a careful post-mortem examination, either decided heart lesions, or cerebral embolism, or both.

The facts brought out at the coroner's inquest, which was subsequently held, were as follows: Dr. B. P. McDonald testified that on March 28th he administered to the deceased, with great reluctance, and only on urgent solicitation, not more than ten minims of the cocain preparation. He extracted two or three teeth, when he noticed that the pulse became more rapid and uncertain, the patient complained of dizziness, there was a fluttering of the heart, flushing, cyanosis, labored breathing, unconsciousness, cessation of the heart's action, pallor, and death. The time that intervened between the first unfavorable symptoms and death did not exceed ten minutes, and was probably less than that.

Dr. C. C. Sparklin testified that he had been the medical adviser and attendant of Mr. Dailey for twenty-five years, during which the deceased had been subject to frequent attacks of inflammatory rheumatism. In the last five or six years, a decided rheumatic condition of the heart had manifested itself, producing hypertrophy, with valvular lesions. This was sufficient at times seriously to interfere with his business. He was called to the office of Dr. McDonald on March 28th, and found Mr. Dailey dead, on the sofa. Artificial respiration was attempted, and hypodermic injections of whisky and ammonia were made, neither of which was absorbed, nor were any signs of life manifested. From his knowl-

edge of the patient, and the account he had of his death, he had no hesitancy in saying that Mr. Dailey died from heart failure, due to his diseased condition.

Dr. J. A. Irwin testified that he was at one time President of the Board of United States Pension Examiners for Elkhart County, and during that time examined Mr. Thomas H. Dailey, deceased, and found him suffering from chronic diarrhea and rheumatism. It was the unanimous opinion of the Board that Mr. Dailey was suffering from heart disease. He had formerly been in the service of the United States during the war of the Rebellion, and a pension was granted him, the rating being given, in part at least, because of abnormal condition of the heart, due to diseases contracted while in the government service.

The coroner, Dr. William W. Johnson, in his verdict, said that he had been able to establish to his entire satisfaction, from the regular medical attendant, a clear clinical record of heart disease of several years' standing. The symptoms and general indications pointed so unmistakably to heart failure, that he did not deem it necessary to hold an autopsy. He therefore found that the deceased came to his death from heart failure, and that Dr. McDonald was in no way censurable.

One of the most satisfactory incidents connected with this unfortunate case, is the conduct of the dentists and physicians of Goshen and vicinity. We have never known an instance in which a truer professional and ethical sympathy was exhibited, and it may stand as a rule of conduct for the two professions under all like circumstances. It was creditable alike to Dr. McDonald, his brother dentists and the physicians, and we shall always entertain a higher opinion of all, because of the true professional spirit manifested. Goshen, a town of 7,000 inhabitants, is only ten miles from Elkhart, which contains about 15,000. The dentists of the latter place held a meeting, and unanimously adopted the following preamble and resolution :

WHEREAS, The late dispensation of an all-wise Providence in the office of Dr. McDonald has caused a shadow of gloom over us as fellow-laborers in a noble profession ;

AND WHEREAS, We are aware of Dr. McDonald's professional worth and ability, and of his standing in the world of men ; therefore, be it

*Resolved*, That we, the undersigned members of the Elkhart Dental Society, in meeting assembled, while tendering our sincerest sympathy to him, fully exonerate him from all blame.

Signed,

W. M. GEORGE,  
S. B. SHORT,  
J. F. WERNER.

S. M. CUMMINS, *President*,  
G. B. CHESTER, *Secretary*.

The dentists of Goshen also published a card of sympathy, and expressed their opinion that their "senior dentist," Dr. McDonald, was fully warranted in the course that he took, and that no blame could be imputed to him. This card was signed by J. H. Hughes, D.D.S., E. P. Cunningham, D.D.S., and W. O. Vallette, M.D., D.D.S., and it is a certificate of honor to them as well as to Dr. McDonald.

Resolutions of sympathy and confidence were also passed by the Isaac Knapp Dental Coterie, of Fort Wayne, Ind., of which place Dr. McDonald was formerly a resident, and were signed by E. F. Sites, President, M. A. Mason, Secretary, W. F. Shryock, George E. Johnson, W. W. Munger, H. C. Sites, S. B. Brown, J. T. McCurdy. All of these evidences of confidence and esteem, expressed without solicitation, must be most gratifying to Dr. McDonald, who has for twenty-five years been a practitioner in Goshen, and who has held high positions in State and local professional societies.

Perhaps there is no toxicological drug employed by dentists about which so little is known as cocain. Thousands are to-day employing it who do not know its nature, its proper dose, or the remedies to use in case of cocain poisoning. There may be a partial apology for this in the fact that it is of recent discovery, and that its nature is not completely comprehended as yet, but there is no possible excuse for ignorance of the symptoms of cocainism, or of the general treatment to be pursued in cases of the administration of an overdose of any like preparation.

Cocain is a crystalline alkaloid, obtained from the Erythroxy-lon Coca, a South American shrub. The leaves of this plant have long had a local use to relieve hunger and thirst, and to enable the natives to withstand fatigue. The extract, when applied to the eye, produces mydriasis (dilatation of the pupil), and when applied to mucous membrane, or beneath the skin, it produces local anæmia by constricting the vessels, and local anesthesia through paralysis of the terminal nerve filaments. It is highly poisonous, and its physiological action is apparently identical with that of thein, caffein, guaranin and theo-bromin, all of which, as has been shown by Dr. A. Bennet, induce a series of symptoms affecting the nervous, respiratory, circulatory, vaso-motor and glandular systems. The probable limit of safety in its administration hypodermically is two and one-half grains, though much larger doses have been taken without serious after-effects. Dr. B. M. Ricketts (*Lancet-Clinic*, March 31st, 1894,) says that he has used seven and a half grains of Merck's cocain within an hour and a half, without toxic effects. Personal idiosyncrasies are more apparent under the exhibition of cocain than almost any other drug.



The first effect of the administration of cocain is stimulative, and this is followed by the narcotic results. In its action on nerve centers it resembles caffenin, and in its effects on the circulatory and respiratory organs it is not unlike atropin. The symptoms of poisoning will vary with the personal equation of patients, but it should not be employed in neurotics, or extremely hysterical persons. One of the first unfavorable symptoms will be a greatly increased heart action, because of its stimulating effects. It does not seem to produce the extreme spasmodic symptoms sometimes exhibited by chloroform, but it is sufficiently well marked not to be readily misconstrued. There will probably be a flushed surface, and possible symptoms of local congestion, dilatation of the pupil, increase of the vigor of respiration, with, finally, paralysis of accommodation, loss of consciousness, stertorous breathing, coma and death. In fact, the later symptoms will not be unlike those in narcotic poisoning, and the time that will elapse before death will be about the same as in cases of an overdose of opium. Unless the dose is extraordinary, some hours will probably elapse, and thus ample time will be given for institution of remedial measures, and for the obtaining of such assistance as will be needed.

No absolute antidote to cocain has yet been presented. But if dangerous symptoms supervene, the same general treatment should be pursued that is indicated in narcotic poisoning. In the earlier stages, with the pupils widely dilated and the respiration feeble, small doses of strychnia may be administered. Chemists now manufacture tablets containing the proper dose of strychnia, with other remedies, for hypodermic injection, and any one who is in the habit of giving cocain should keep them on hand. If drowsiness succeeds, atropia and strychnia may be given hypodermically, in doses of  $\frac{1}{100}$  to  $\frac{1}{50}$  grs. Alcohol and ammonia may be given hypodermically, and artificial respiration should be resorted to if necessary. The patient should be roused by any necessary means if there are indications of coma, and should be made to exercise freely. Inhalations of nitrit of amyl will be useful as a heart stimulant. The best medical counsel should be sought, of course, and there will ordinarily be abundant time to procure it.

It will be seen from this, that the case of Dr. McDonald at Goshen, presented very few of the indications of cocain poisoning. There was increased heart action, with flushing of the face, but this is to be accounted for by the nervous stimulation of a weakened heart through the natural apprehension of pain from extraction. Probably, if no cocain had been used at all, the effect might have been the same. There is, however, a possibility that the dose of cocain was enough to over-stimulate a heart in the condition of that

of Mr. Dailey. All the subsequent symptoms were those of complete heart failure, the blueness being indicative of a cyanotic condition, through lack of circulation, the pallor, the diminution of blood in the capillaries, the other symptoms being all due to the same cause. He died within ten minutes, from undoubted heart failure, and there were none of the symptoms of cocain poisoning as they would be exhibited in the later stages of death from this cause.

The preparation of cocain used was the following :

R.—Atropie .....	gr. $\frac{1}{10}$ .
Stropanthii.....	gr. $\frac{1}{2}$ .
Cocain mur .....	grs. 1.
Acidi carbolic.....	grs. x.
Ol. carophyli.....	℥ 3.
Aq. dest.....	℥ j.

This produces a ten per cent solution, and ten minims of it would give less than a grain of cocain. Dr. McDonald thinks that not more than five to eight minims were absorbed; probably the former quantity. This would be far within the limits of ordinary safety. A large number of medical practitioners have found a ten per cent solution preferable to a four or five per cent. Ten minims of the former contain no more of the drug than twenty of the latter, and it can be more easily administered. A four per cent solution is no more safe than a ten per cent, save that less of it can be given. If ordinary care is used, the stronger solution presents considerable advantages. Dr. J. E. Boylan stated before the Cincinnati Academy of Medicine (*Lancet-Clinic*, March 31st), that he at first habitually administered twenty minims of a ten per cent solution, but has lately reduced the dose. Other practitioners give much larger doses.

Dr. Hoppe (work cited) believes there is little danger in strong solutions when properly used. He worked for several months in the clinics of Fraenckel, where only two solutions were kept on hand—one of twenty and one of ten per cent. The opinion of many medical practitioners is that toxic symptoms are as likely to follow the use of a weak as of a strong solution. Toxic symptoms have been observed from the hypodermic injection of pure water in considerable quantities, and neither dentists nor physicians have the right to use any solution in large quantities. Nevertheless, it is probable that for indiscriminate use by dentists of all degrees of intelligence, the solution given above should be reduced by adding an equal amount of distilled water. The preparation used by Dr. McDonald is employed by many surgeons of the highest repute, and the editor of this journal has used it exclusively for two years.

Many surgeons of the very highest standing use cocain freely, and without much precaution. One within the circle of our acquaintance says that he expects occasionally to observe toxic symptoms, but these he combats promptly, and always with success. He finds that the poisoning does not necessarily depend on the amount injected, the dosage being variable, no special indication fixing the particular strength admissible for any individual. The toxic symptoms are apt to be idiosyncratic, and there is no means of determining in advance whether a patient will tolerate the drug well.

There is another alkaloid of coca, which has been recommended by some—*tropa-cocain*—and this is said to possess but one-half the toxic power of the muriate, but it is only half as efficacious as an obtundant. All of the secret preparations that are offered for painless extraction of teeth, that are of any use, depend on cocain for their anesthetic properties. They should never be used, because the dentist does not know what he is giving, nor should any cocain mixture be employed unless the administrator knows the character of the unfavorable symptoms which may arise, and what methods to employ successfully to combat them.

It is well known that cocain rapidly deteriorates in solution when exposed to light and air, but carbolic acid and some other agents are said to prevent or retard this. We have used a single bottle of the formula employed by Dr. McDonald for six months, without any apparent loss of strength or efficiency.

*W. C. Barrett, Practitioner.*

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## FOREIGN SUBSTANCES IN THE EYE.

*T. J. McCoy, M.D., Los Angeles.*

The pain from a foreign body, even if it is very small, is quite severe, and though it may be on the center of the cornea, the patient often experiences the sensation of its being under the upper lid. Generally, no difficulty is experienced in easily locating and removing it. If lodged only on the epithelium, it may be brushed off with cotton wrapped around a probe. If imbedded in the corneal tissue, a drop of two to four per cent solution of cocain should be introduced. Sit the patient facing the light. Stand behind the patient, open the lids with the thumb and forefinger of your left-hand. Have the patient look at some object which will bring the foreign body into the best view; make slight pressure on the eye to better fix it, then with a spud or sharp needle, lift it out with as little injury to the cornea as possible. It may be necessary to dig or scrape before it will yield.

The exudate from iron scales, or emery, at times leaves a staining which cannot be wholly removed. If the foreign body has partially penetrated or is hanging on Descemet's membrane, none but a skilled hand should attempt its removal, as there is great danger in pushing it through into the anterior chamber, a most lamentable, accident, which, if not relieved, may destroy the eye. If sticking through the cornea, cocainize, cleanse and transfix the eye; with a sterilized Beers' knife enter the cornea near the offending matter, with the broad side of the knife toward it, push through till behind the object to make a support; sometimes it will be necessary to counter-puncture to better support, and then remove the foreign body. The wound from the knife heals without a visible opacity, but the traumatic ulcer sometimes leaves a small round blur.

Dr. Webster gives the history of a man gathering chestnuts two weeks before, when a bur fell, striking him in the face. A small prickler had penetrated the cornea and was hanging on Descemet's membrane. There had been an unsuccessful attempt at removal by the family physician. On his entrance to the hospital the cornea was slightly infiltrated around the entrance of the bur, and could be seen only with the greatest difficulty with the lens and good light.

Dr. Webster entered with Beers' knife, when the object for removal could not possibly be seen; the knife was withdrawn and it was seen as before. The second attempt was made, when again neither the doctor, nor we, the house staff, could possibly find it. We kept the patient till the eye was well from the knife wounds, when he was allowed to go home, with orders to return, but we did not see him again.

Foreign bodies sticking in the loose redundant ocular conjunctiva, such as powder, cannot be picked out easily. Take a small forcep, catch up the offending matter and snip off with small scissors as close to the forceps as possible; the wound heals readily. If a foreign body has penetrated through the cornea, and can be seen and extracted, the sight may be wholly or partially preserved. If there is a failure, the chances are the eye will be lost, and if sympathetic irritation is produced in the fellow eye, the one containing the foreign body should be enucleated without delay. The best way to remove the foreign body is to make a broad incision at the corneal margin, and remove by the iris forceps or small cataract scoop. If it is lodged in the iris, we usually have to drag out and snip off a piece of iris along with it. If it be steel, we may remove by the use of a magnet. Unfortunately, sympathetic inflammation may commence before the foreign body is

removed, and yet present no premonitory symptoms when lodged in this situation. Dr. Webster reports a case of this kind, in which a gun cap had lodged in the iris of a child, which had been there only a few days. The late Dr. Agnew performed an iridectomy, removing the gun cap with a portion of the iris. The eye made a rapid recovery and the patient was sent away for the summer. In about two months the parents brought the child back, because they had noticed it running against chairs and other objects; this being the first intimation that anything was wrong. Irido-cyclitis was found in the injured eye and sympathetic ophthalmia in the other. The disease had come on insidiously, without pain, redness or photophobia. The pupils were already filled with lymph. There was total synechia posterior and only perception of light. The child lost sight in both eyes. This is, however, the great exception when the foreign body is removed with so little damage. My partner, Dr. Rogers, is now attending a blacksmith, who says that about five years ago the eye was struck and two slivers of iron penetrated his right eye. One of the pieces is plainly visible, clinging to the iris. We failed to find the other, if it is in. The lens has not been wounded. He has had several attacks of iritis, which seems to yield readily to treatment, and having some vision in the eye, will not submit to an operation. A patient came to me, saying: "Seventeen days ago, while chopping wood, a chip struck me in the right eye. I called on a physician, who claimed to have removed a piece of wood from the eye. As the pain and watering became no better, I called again in three days. The doctor said he could find no more, and gave me a wash. Soon after this I called on another, who could find nothing." I found photophobia, some pain and lachrymation. Conjunctiva quite red at the lower and outer quadrant of the cornea. At the limbus cornea there was a small round ulcer, covered with secretion. Around it the tissue was quite red, blood-vessels running to the wound, and he complained of a rough, grating feeling on opening and closing the eyelids. After cocainizing, cleansing and examining the wound under the concentrated rays of light with the lens, a foreign body was discovered. With a spud I lifted out a piece of wood, almost square, the size of a large mustard seed. The eye made a good recovery under the usual treatment. After the removal of foreign bodies from the cornea, the impression of its not being entirely out sometimes remains for several hours. This may have been the cause of the first physician's failure.

The 17th of last September Dr. Brill referred a patient to me, who has kindly presented himself for your inspection. Two or three weeks before, on a fishing excursion, while walking behind the

burro, a switch caught in the saddle; it rebounded forcibly, striking him in the eye. The doctor found the ball wounded in the sclera, near the cornea. There was vitreous presenting, and a small piece of bark, which he extracted. He was taken to the hotel, and there was considerable swelling of the conjunctiva and surrounding tissue. The treatment with cold cloths, atropin and boracic acid solution was given. He came home as soon as able to travel. I found the pupil dilated and irregular toward the wound. There was a mass as large as a split pea in the sclera, beneath the conjunctiva toward the inner canthus; a bead of vitreous protruding from this, about one-eighth of an inch from the limbus cornea; conjunctiva slightly red, very little pain, moderate photophobia and lachrymation; tension about minus two; vision, fingers at six feet; lens clear, large floating bodies in the vitreous; a darkish mass in the neighborhood of the wound, which I took to be coagulated blood. My treatment was expectant—twenty-four hours, put to bed, ice cloths, and atropin. After this, bandaging, rest and atropin, with the hopes of preventing farther hernia of the vitreous and to get union of the wound, which seemed to yield in about two weeks. In wounds of the sclera, it is advised at times to unite the edges with silk or catgut. I thought of a stitch, but decided if the hernia did not yield by pressure, I would put one through the conjunctiva, as a stitch through the sclera here, through or near the ciliary region, would be an additional danger of producing sympathetic inflammation. The wound, where the vitreous protruded, seemed to extend backward and inward. My hope was that it extended beyond the ciliary region; therefore, less liable to sympathetic trouble in the future. The recovery has exceeded my expectation. He has been able to return to his position as book-keeper since the middle of October.

The length of time a foreign body can be retained in the eye without giving trouble to the fellow is sometimes surprising. Dr. Roosa enucleated an eye in 1892, that, according to the statement of the patient, was struck with a piece of steel in 1860. The eye was blind and had been given sympathetic irritation a few weeks before coming. After enucleation a chip of iron was found imbedded in the fundus. Two weeks ago a patient was brought to Dr. Rogers by Dr. Lanterman, of Santa Monica, who had a dynamite cap explode in his hand while getting ready to blast. Both eyes have been seriously injured, it taking him six hours to go three miles to help. Left pupil irregular toward inner canthus; there is a wound in cornea where a foreign body having a distinct luster can be seen; a dark reflex; right eye, wound at outer canthus at limbus cornea; iris caught; pupil irregular; detached retina below, vision finger at eight inches.

I briefly conclude with the following: Examine carefully for foreign bodies on the cornea and conjunctiva in sudden irritation or inflammation of the eye coming on suddenly without finding other causes, and, if found remove with as little injury to the surrounding tissue as possible.

If found within the eye-ball, especially in the ciliary region, the patient is in danger of losing the fellow eye by sympathetic inflammation, whether the foreign body is removed or not; the removal of it lessens such danger. However, if the fellow eye is attacked with symptoms of severe sympathetic irritation, the eye containing the foreign body should be enucleated without waiting for actual sympathetic inflammation. If the foreign body has destroyed the sight, enucleate without delay.

When the foreign body is of material to be attracted by a magnet, and be seen before it is encapsuled with organized lymph, extraction may be produced by the magnet. If the foreign body is small and its location uncertain, the introduction of the magnet into the ball is generally to be discouraged. After extracting a foreign body from the interior of the eye, the patient should be warned that sympathetic inflammation may occur; and, if so, the eye must come out at once to attempt to save the fellow.

*S. Cal. Practitioner.*

[While a student at medical college, I was given a patient with five small pieces of steel in the right eye. They had been imbedded there for ten years. A cataract was forming, and loss of sight of the left eye. I highly magnetized a very sharp lancet, and bulging the eye firmly between my fingers, I cut each so loose as to come away on the point of my magnet. The main thing is steadiness of hand and delicacy of manipulation. My professor said afterward, "I did not dare to do it, for I was too conscious of the danger of the least tremor of the hand."—ED. ITEMS.]

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It would probably surprise the literary novice to be told how many times the MS. of some of our ablest authors of general literature is rewritten. The fact that an article reads smoothly is no indication that it was written easily—the fact is usually to the contrary. Persistent effort of this kind will prove beneficial to the writer in many ways. No man can write out an idea without having that idea made clearer in his mind—he cannot describe a method or an appliance without forcing the details more firmly into his brain on account of having given concise and accurate expression to them. In no department of our work is the saying "practice makes perfect" more true than in this.

*C. N. Johnson.*

## WATER DRINKING.

One frequently comes across articles in medical and other journals warning people to be abstemious in water drinking. One directs that water should only be taken before meals, another insists that it must be drunk only afterward, while some declare that it should not be taken at all, if it be possible to avoid it. To the man who thinks for himself, all this is the veriest nonsense. Water is the universal solvent of the human system. All the effete matter must be eliminated by its aid, and the greater the waste the more the necessity for taking plenty of it. If there be unusual exertion of any kind, there will, of course, be an excessive amount of urea in the body, and this should be held in solution by water.

Let any man whose functional activity is great, watch the effect of abstaining from fluids. Quite probably he will find his urine becoming turbid, with dark deposits, and there will be a tendency to their retention in the tissues. This means rheumatism, gout, calculi and other evils resulting from a lithemic condition. Let such an one then drink plenty of pure water and the morbid symptoms will disappear, unless they be due to inactivity of the kidneys.

The skin has important emunctory functions, but if the tissues be poorly supplied with the necessary amount of water, the perspiratory glands become inactive, and there is a lack of their depurative influence. Fevers may frequently be aborted or broken by the free use of pure water. The temperature of the body is kept at its normal point by the evaporation of water from the surface of the skin. All the secretions of the body are dependent on water for their integrity. No amount of solid matter can compensate for a lack of fluids.

If any one is undergoing great exertion, let him partake freely of fluids and he will find that he will be less exhausted at the end of it. When we have found it necessary to labor unusually hard, have made it a point to drink water freely and frequently, not waiting for extreme thirst, but taking a glass of it whenever we felt that it could be drunk without discomfort. We feel assured that if many of our hard working dentists would make a point of drinking more water, they would avoid that feeling of complete exhaustion, for the waste products of their exertion would be more speedily and completely eliminated.



# OUR QUESTION BOX.

With Replies From The Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

**Question 163.** *A man sixty-five years of age had upper left first molar extracted during the war. Part of the floor of the antrum was removed with the tooth, leaving an opening which has never healed. From catarrh of nasal mucous membrane, extending to that of the antrum, there is a continual flow of pus into the mouth. Patient wishes an upper plate. I tried and failed.*

Whatever your patient may want, it is very evident that the conditions must be made favorable to the supply of that want. The first requisite is the cure of catarrhal affection. If success does not attend the effort, the want must ever exist.

*W. S. Elliott, D.D.S., Trenton, N. J.*

Probe for necrosed bone; if found, it should be removed. By the use of the atomizer, healing and antiseptic washes try to cure the catarrhal inflammation, and close the opening. If this should fail, make a plate with a much abused air chamber; or, better still, use a Scott or Beers patent atmospheric disk, allowing plate to come as close to the opening as possible.

*A. L. Brown, D.D.S., Perry, Ill.*

Considering length of time the diseased condition has existed, I would be suspicious of necrosed bone and treat for it. If possible, heal the mucous membrane, and then by scarifying slightly I think the opening will heal and give no further trouble. If possible, get the antrum to heal first. If unable to do this, make a plate with an opening corresponding to the one in antrum, and have patient treat by injections daily, trusting to time for a cure.

*A. A. Kumler, Cincinnati, O.*

The case is complicated. It is impossible from your explanation to answer in a general way. Age, temperament and health are to be considered. Remove all necrosed bone; syringe with listerin (diluted), which will find an outlet through the nose. Also, use Marchand's peroxid of hydrogen diluted; 4 per cent solution of boric acid; carbolin may be used with good results. After antrum is in a healthy condition a closure of opening will probably occur gradually. This case will require from three to six months' treatment, once or twice daily. After a cure is reached insert denture.

*A. A. Cook, Utica, N. Y.*

Heal the diseased parts, if possible. I should use chlorid of zinc, twenty grains to an ounce of water. If antrum can not be healed, and the opening closed, make a plate with a deep ridge around the entire alveola border sufficient to hold the plate without a suction cavity. If the patient wears lower plate, use springs. I have a patient who has two openings from the mouth into the antrum, each as large as a silver five-cent piece, caused by excessive absorption. I have succeeded very satisfactorily with spiral springs.

*A. F. Davenport, North Adams, Mass.*

You do not state in what direction you failed, and to give conditions existing in upper and lower jaw. I assume from patient's age that all teeth are lost from upper jaw. Attempt to check discharge from the diseased membranes. Some one of the remedies used with the vaselin atomizer should check that in the nasal passages, while the antrum may be syringed with warm water, followed with some antiseptic solution. After the discharge is under control, get a good plaster impression. Trim your model wherever you find soft places in the mouth, where the border of plate is to touch, and also across the roof of mouth at the posterior border of plate; by so doing a tight fitting plate is obtained. Construct on this model a metallic plate with a small tube attached, extending through the plate and opening into antrum. When teeth are arranged on plate, leave the opening into the antrum uncovered to permit discharge and prevent accumulation in the antral chamber.

*John S. Engs, D.D.S., Oakland, Cal.*

**Question 164.** *A gentleman, aged thirty-six, has four very prominent and protruding upper incisors. The arch is narrow; articulation is good, with the exception of these teeth, which do not articulate by a half inch. I can not regulate without expanding the arch. The patient is determined to have something done. What shall it be?*

Extract incisors and put in bridge.

*A. L. Brown, D.D.S.*

Extract first bicuspid and move six front teeth back. Expand arch.

*A. A. Cook, D.D.S.*

From my understanding of question I think it practicable to extract the incisors, and make a bridge, anchoring it to the cuspids. At the age given, regulating would be a serious operation, and very uncertain as to results.

*A. A. Kumler.*

Be consistent with professional claims and practical ability, and not undertake to reach the unattainable. Extract the incisors and replace with artificial substitutes, or if the roots can be utilized for artificial crowns, then proceed accordingly.

*W. S. Elliott, M.D.*

Regulating teeth at the age of thirty-six is not likely to prove successful. Your patient will probably be better pleased if you excise the natural crowns, and substitute artificial ones arranged at the proper angle.

*John S. Engs, D.D.S.*

Extract first bicuspid and draw back the incisors. A very good way to accomplish this is by an appliance of hard rubber fitting the ends of the incisors, and connect to this an attachment of cloth, passing around the head, with strong elastic bands at the sides. It may be only necessary to wear this appliance nights to accomplish the desired result.

*A. F. Davenport.*

**Question 165.** *A lad, thirteen years of age, was pounding two hammers together when a piece of steel flew from one, striking an upper central and splitting it from cutting edge to a short distance under gum margin. The part split off is just hanging to the gum, but the remainder of the tooth is firm and pulp uninjured. What is best treatment?*

Draw parts together and cement. Attach platina or gold crown, open face, covering cutting edge.

*A. A. Cook, D.D.S.*

I do not think anything permanent can be gained by trying to save the hanging piece. If broken too seriously to restore contour by filling, I should cut off and crown.

*A. A. Kumler.*

Devitalize and fill if not broken too badly. If more than half of tooth is broken off, crown with porcelain.

*A. L. Brown, D.D.S.*

If the portion split off is not sufficiently large to disfigure the tooth, I should do no more than polish the broken surface. But if the tooth is disfigured beyond repair, devitalize and crown the root.

*A. F. Davenport.*

Here inventive powers must be brought into play. When the case is presented to view various plans will be suggested, one of which may possibly be made available, but on broad principles I would not advocate any finiky work. My most probable plan would be to destroy pulp and supply artificial crown.

*W. S. Elliott, M.D.*

The description is not quite plain, yet I think it advisable to remove the pulp. In most cases where a tooth has received a severe shock the pulp eventually dies, discoloring the tooth, and may lead to alveola abscess. Having properly filled the root, you may fill or set an artificial crown as seems best.

*John S. Engs, D.D.S.*

C. C. J.—Address Dr. E. P. Stiles, Austin, Texas, for annual report of State Dental Examiners.

W. D. P.—The address of the Secretary of State Dental Association is Dr. Chas. B. Lewis, Ennis, Texas.

DR. E. N. FRANCIS:—How and when can a regular practitioner or graduate from this State (Miss.) going to Texas obtain a license? Is temporary license issued? When can a dentist get an examination?

Yours fraternally, D. M. GATLIN.

This letter from Dr. Gatlin was not intended for publication, but as we are in receipt of many inquiries from American and English dentists regarding the dental law of Texas, we take the liberty of publishing the above, with the following letter from Dr. E. P. Stiles, which will explain itself.

DR. E. N. FRANCIS,  
Uvalde, Texas.

*Dear Sir:*—Your inquiry, of May 7th, concerning the Texas State Dental laws, addressed to the Secretary of State, was promptly referred to me for reply, and I regret that time has not offered earlier opportunity to answer as fully as I wished.

The present law was enacted by the twenty-first Legislature in 1889. Under the provisions of the law *no one* may practice dentistry lawfully *without a recorded license*. Persons who can prove graduation from a reputable dental college are granted a license free of cost, but must pay a fee of fifty cents to the county clerk for recording his license in the county in which he expects to practice. All other persons now have to pay a fee of five dollars to the Examining Board for license. There is a board for each judicial district in the State, and each holds its annual examination at its own set time.

Persons coming into the State to practice dentistry previous to the annual meeting of the examiners for the district, must apply to a member of the board for a temporary license, which costs nothing, and need not be recorded, but becomes void when the examiners meet. The applicant must then pass examination, or refrain from the practice of the profession within the district for one year. Any person violating the provisions of this law is, on conviction, fined not less than one hundred dollars nor more than two hundred. There is no registry of the various boards, nor of their officers, and persons outside the State wishing to make inquiries cannot do better, under present conditions, than to address their inquiries to any dentist in the town or city in which they are interested.

As the ITEMS OF INTEREST is read quite generally by the dentists of Texas I add the following observations:

1. Our law provides for no concerted action by our boards, consequently no standard of examination. If an applicant fails before one, he may try another, or he may get a temporary license in any other district.

2. The ignorant and indiscriminate extraction of teeth is not prevented, for Section 10 reads: \* \* nor shall it be construed to prevent *persons* from extracting teeth.

3. The law is so poor that it is not enforced, and a great many dentists are practicing to-day in violation of the law.

We need a new one badly, and I understand that a committee of the Texas State Dental Association is now formulating one. There should be but one Board of Examiners for the State.

Respectfully,

E. P. STILES,

*Pres't Board of Examiners 26th Judicial District, Austin, Texas.*

Dentistry is not a plaything. To "drift" in is generally to drift out, like other brushwood. As a profession it demands respect. Too many men are whole heart and soul in it to tolerate imbecility. It is more than even a profession; it is a science—a recognized science, and the scientific and surgical world look to men who specialize for their most interesting and valuable information. Papas with some money and boys they don't know what to do with, had better ignore dentistry as a probable stepping-stone. Dentistry is not a footstool. It is a business; a money-making business, and as such is blessed with competition. It is this competition that makes men or mice.

*Rawson.*

In an accidental burn from carbolic acid apply strong vinegar, or a weak solution of acetic acid. Should carbolic acid be accidentally swallowed, use a strong solution of sulfate of soda, which forms with carbolic acid a harmless mixture.

*D. V. Beacock.*

## PRACTICAL POINTS.

*Mrs. J. M. Walker.*

Gleaned at Old Point Comfort, 1894.

### **Protection of Tips of Porcelain Teeth in Bridge-work.**

—Use teeth with “up and down” pins. Bevel from lower pin to cutting edge, to knife edge. Back with 22k. gold, but do not burnish backing to beveled portion. Cover backing with wax, except portion over beveled facing; invest, covering all of tooth but wax. When set, remove wax and flow solder enough to restore contour of tooth; polish each facing, wax into position on bridge, re-invest and solder joints, and when bridge is otherwise finished, burnish the portion of gold, not covered with solder, down to beveled portion of tooth. If burnished down before flowing solder, contraction of the metal will break the porcelains.

*T. P. Hinman.*

**To Band a Logan Crown.**—Prepare tooth as for Richmond crown; grind Logan crown proximately to fit root; make gold band 22k., 29g., extra wide and larger at crown opening than at root. Place band on root and grind crown to fit opening of band tightly, and drive crown home with mallet; remove band and crown together, and with corundum stone grind away band in front, leaving it very long in back; grinding and burnishing it over the bulbous portion. Grinding toward the tooth will burnish the band to the tooth, and a perfect joint will be made. Requires no inside disk and no soldering. It is strong and durable. The tooth can be banded more quickly than a Logan crown can be adjusted, by grinding to fit the abutment of the root closely.

*T. P. Hinman, Atlanta, Ga.*

**The Best Teeth for Bridge-work.**—The English tube teeth are the best porcelain teeth for bridge-work for many reasons: They are the least unsightly; they are easily replaced, if broken, without removing the bridge; they require no unsightly gold tips.

*Dr. Lord.*

**To Back Porcelain Teeth in Bridge-work.**—Back with very thin platinum plate and place a compressed cylinder of gold between the platinum and the porcelain, burnishing proximately. Grinding off to a feather edge brings it into perfect contact, and the solder follows the interstices of the gold cylinder under the platinum, the solder flowing without burning the gold. Grind down with very fine corundum stone.

*W. G. Browne, Atlanta, Ga.*

**Backing Teeth in Bridge-work.**—Use platinum and simply press it down with soft wood. First anneal it, and then press it down and have it in place. The more you burnish it, the further it gets away.

*S. B. Cook, Chattanooga, Tenn.*

**To Prevent Discoloration in Backing Teeth.**—Discoloration comes from soldering on unclean gold; pickle it to its virgin condition before soldering, and your gold will not blacken and show dark through the porcelain. Use only the minimum amount of flux.

*I. Y. Crawford, Nashville, Tenn.*

**The Proper Position at the Chair for the Operator.**—The upright position, as straight as an Indian, standing to the side and partially behind the patient, with the head bent slightly forward (with the mouth mirror as an indispensable adjunct), is, with slight modifications, the position I assume for all operations; and I can truthfully say I never had a backache in my life.

*E. P. Beadles, Danville, Va.*

**Separating Teeth Before Filling.**—Wedge in a small piece of cotton—not too tight—and dismiss the patient till the next day. This will give all the space needed for an ordinary filling in an anterior tooth, if you cut away all the enamel on the lingual side, exposing to the eye the entire cavity, as reflected in the mouth mirror.

*E. P. Beadles, Danville, Va.*

**Extensive Contour Fillings Made in the Laboratory.**—The corner of a central incisor, broken off by a blow, from the gingival margin of the mesial surface diagonally across to the angle of the distal surface, was restored by a gold filling made in the laboratory as follows (pulp alive, but nearly exposed, and patient insisting upon a gold filling): Beveled the margins of fracture accurately; burnished a thin piece of platinum plate to the surface, pierced with three small holes, through which platinum pins were passed at parallel angles. Over this plate, contour was restored with wax, over which platinum was burnished, using a warm burnisher, to cause the platinum to adhere to the wax. The whole was then removed and invested, leaving the mesial margin exposed. The wax was burned out and the pocket filled with 22k. gold solder. The investment was removed, the piece finished up and adjusted (being secured with Justi's cement), and the entire operation completed in little more than an hour.

*S. W. Foster, Decatur, Ala.*

**To Obtund Sensitive Dentine.**—Put the patient on an alkaline treatment for several days previous to the operation. Put a teaspoonful of soda in a glass of water, and have the patient

hold a little in the mouth frequently through the day—perhaps twenty or thirty times. The next day double the proportion of soda, and again the third day. The fourth day pack soda in the cavities for some little time before cutting the tooth, and you can then cut without pain. Soda is the natural tooth obtundent.

*Frank Abbott, New York.*

**Porcelain-Face Restoration for Bicuspid Having Palatal Wall Standing.**—Select a porcelain incisor, or other face to suit the case, and back with gold, soldering the sides of the backing to a gold band around the tooth, which is made very narrow at the front, making a shell crown accommodating the palatal wall of the natural tooth. Strengthen the inside with solder. This tooth is invincible, pretty in appearance—the back being of gold, the face all porcelain—and the patient saved from the objectionable “artificial tooth.”

*L. P. Dotterer, Charleston, S. C.*

**To Secure Perfect Articulation Between Natural and Substitute Teeth in Bridge-work.**—Take bite in modeling compound, and flow in Melotte’s fusible metal for model on which to adjust the teeth. Is very accurate, there is no wearing away of edges as with plaster, and by swaying between metallic casts a very perfect occlusion can be secured. In heating the fusible metal, put a little water in the spoon with the metal, which secures a degree of heat of  $212^{\circ}$ , and it sets immediately.

*R. A. Freeman, Nashville, Tenn.*

It takes a better dentist to make a financial success now than it did ten years ago. Our ranks have been largely augmented, the standard of work has correspondingly advanced, and the *personnel* of the profession has greatly changed. Ten years hence, the man who sticks to the methods now in vogue may find himself more of a “back number” than the laggards of to-day. For the rapidly-increasing dentists in all our States to enjoy even a moderate living from their profession, it will be necessary to keep wide awake and use every energy at their command.

For the present number in our profession to enjoy the proper financial return necessary for a dignified professional position, there must be more dental work done. It is the minority in every community that comes under regular and intelligent dental care. To gather in and educate the great mass of the dentally neglected and negligent laity is the great practical problem for the progressive dentist.

*Dr. Bergstresser.*

## ITEMS.

To give aluminum a high finish, make a bath of strong alkali.  
"Use commercial concentrated lye."

*J. Harbin Pollock, New York.*

\* \* \*

Hand-work is capable of versatility, adaptability, and individuality in much higher degree than machine-work, and where these are important, as in the nice shades of difference in the forms and contours of tooth restorations, the engine should be used sparingly and carefully, and much work done by hand, even though the time required be longer.

*Edmund Noyes.*

\* \* \*

When a glass stopper sticks in a bottle, pass a strip of woolen cloth around the neck of the vessel and see-saw it backward and forward. This friction causes the neck to expand, so that the stopper becomes loose. On this principle of expansion by heat a tight screw may be drawn from a metal socket with a cloth dipped in boiling water.

*Scientific American.*

\* \* \*

Was Carlyle thinking of teeth when he characterized the present age as one of sham? If so, he knew what he was talking about. In a compensation case, a dentist in Ludgate Hill deposed that he had 20,000 patients on his books, and that he had supplied over 100,000 sets of teeth during the time he had been in practice.

*Pall Mall Gazette.*

\* \* \*

Often, after a black rubber plate is polished, it presents a very inferior color, a grayish-black. This may be removed by the application of carbon bisulfid. Dampen a cloth with the solution, and rub the plate vigorously wherever required. It is well to wash the plate thoroughly after the use of this solution, as there might otherwise be a tendency to nausea.

*S. Burns.*

\* \* \*

C. P. Pruyn, D.D.S., Chicago, Ill.: Shortly after Nikolsky made his first experiments I procured some cocain and began to use it locally, but with little effect, as we used it at that time. I then began a series of experiments, using dogs for this purpose. There are many things that we need to know that can be learned only through experiments on the lower animals. Many times I have seen symptoms that would have alarmed me, had I not seen the same things when experimenting on dogs.



AN ANTIDOTE FOR PRUSSIC ACID.—A Hungarian chemist, Dr. Johann. Antal, recently reported to the Hungarian Society of Physicians that he had discovered a new chemical compound, the nitrate of cobalt, which, he says, is a most efficacious antidote to poisoning by cyanid of potassium or prussic acid. He tried the antidote first on animals, and afterward on forty living persons who had been accidentally poisoned with prussic acid. In not a single case did the antidote prove a failure. *London Public Opinion.*

\* \* \*

THE HUMAN HEART.—The workings of the human heart have been computed by a celebrated physiologist, and he has demonstrated that it is equal to the lifting of 120 tons in twenty-four hours. Presuming that the blood is thrown out of the heart at each pulsation in the proportion of sixty-nine strokes per minute, and at the assumed force of nine feet, the mileage of the blood through the body might be taken at 207 yards per minute, 7 miles per hour, 168 miles per day, 61,320 miles per year, or 5,150,880 miles in a lifetime of 84 years. In the same period of time the heart must beat 2,869,776,000 times. *The American Therapeutist.*

\* \* \*

Though a great believer in crowns and crowning, says Dr. T. Mansell, I do not advise their indiscriminate use in the molar region, when the natural crown can be contoured or rendered useful by filling or other means. Some operators will sacrifice a large portion of a tooth to crown it. I do not hold with them, but would preserve the natural part as long as it could be made to carry on its fair share in the work for which it was intended; when it fails to do this, the roots will probably bear crowning, and so the integrity of the dental arch may be preserved for a longer period than if crowning were resorted to in the first instance. *Southern.*

\* \* \*

A POTATO RETORT.—An Australian mining journal is responsible for the following: A miner in that country, who was obtaining fine gold by sluicing, was asked how he saved it. He replied that he employed the common amalgamation process, but used a novel and ingenious retort for the purpose. After amalgamating with quick-silver, "I get a potato," said the miner, "cut off one end, and scoop out a cavity in it large enough to take my ball of amalgam. I next take a spade or piece of flat iron, and place the potato with the cut side down. As the amalgam gets hot, the 'silver' evaporates and goes all through the potato; but it can't get through the skin. When it is cool, I have my gold button on the spade and my 'silver' all in fine globules in the potato. I break that potato up under water and I have all my 'silver.'"

*Philadelphia Ledger.*

Cocain should be used with much care. In dental practice its systemic effects are more marked than in amputation of limbs, for the vital nerve centers are reached through the reflexes in operations about the mouth. All these patent nostrums, put forth as specifics for pain, have as their active principle cocain. Somebody is going to suffer; thousands have already suffered. Note the way in which rhinologists use it. There is a case of chronic catarrhal condition; perhaps an operation has been performed. A prescription containing cocain is written out. The patient takes it and experiences relief. He gets more of it; and then a little more, and thus is established a habit far more terrible than the opium habit. Cocain is a good remedy. I use it. But do not let us abuse the good things we have.

*Register.*

\* \* \*

To get a tin model on which to vulcanize a plaster cast, free from imperfections or blisters, carefully dry cast and dip into melted stearine. When hardened, a sand mold from this model is made in the usual way, into which tin is poured, and when slightly congealed at the edges, the still fluid portion of the tin is poured back into the melting ladle. A thin shell of the tin will be left as a lining to the sand matrix. This shell furnishes a perfect model after the hollow interior is filled with plaster. If the pouring back is delayed too long, the tin shell will be too thick, but the right moment for repouring will be easily seen by a little experience. Before the plaster of Paris is poured into the tin shell, the latter is to be cut at different places with a very thin saw from the outer margin toward the alveolar ridge. These tin incisions will permit the removal of the tin shell after vulcanizing, by bending the sections of tin to the inside, so that the plate may be easily separated from the model. Plates so vulcanized need no further polishing on the palatine surface.

*Zahntechnische Reform.*

\* \* \*

The disrepute into which cocain has fallen in a section of the profession is undeserved. The smallest dose which has hitherto been shown to produce any dangerous symptoms is  $1\frac{1}{4}$  grains, and this is more than is sufficient for any of the smaller operations, and is far more than is required for, at any rate, one tooth. The cocain must be pure, and to be used in about four to five per cent solution.

*A. R. Cushing, in Register.*

\* \* \*

The gold produced in California since 1850 exceeds \$1,250,900,000, and the yield at present amounts to about \$13,000,000 a year.

## EDITORIAL.

### BE A KING.

There are men whose presence is commanding ; whose unconscious influence is power ; whose very step is kingly. They have cultured and governed themselves till they have learned to control and develop others. Are not these kings ?

Such men have power to create what is not ; to see what is unseeable ; and to hear what the common ear cannot hear. They can feel and interpret the very heart-beats of the universe.

Let such a man speak to the solid inanimate rock, and it whispers back marvelous things. Let him stamp on the solid earth, and the precious metals ring back their presence. He reaches down into its depths, and the world is all aglow with the reservoirs of light. Electricity feels his control, and the very elements cluster as he wills in forms of beauty and usefulness. He turns his eyes to the heavens and great worlds come to him, and he peers into infinitesimals, and behold they are worlds.

You and I may be kings. All kings ? No subjects ? Yes, we may all be kings in our sphere, though subjects of all other spheres. We may be kings to one another. Our subjects may be richer than we in some store, but poor in what we may bring ; they may be wiser in some wisdom, but not in the wisdom we may have ; they may wield authority to which we may never attain, but not the authority we possess.

But examine yourself. Are you a king in your sphere ? Do not look too far for the answer, or too high. Is not he a king who can govern himself, and the persons and things about him ? Are you then a king in your office ? Most are not. They are subjects to those about them, and to their own passions, appetites, habits, and ungovernable will.

Some are kings of circumstances. They sit in their majestic chariot and hold the strong reins of their powerful steeds with grace and judgment ; others are subjects, for their horses are beyond their control. Some are kings in their business, for every-

thing obeys them. Such a one speaks to their instruments, and each in his order becomes a soldier—prompt, precise and wonderful in dexterity; he speaks to his materials, and as living things they take their places, and crowd so closely, and lock arms so tightly, and stand guard so effectually that no enemy can dislodge them; he speaks to diseases, and lo, pain hushes, decay stops, and deformity changes to beauty. But all have not this power. Their voice is not heeded; their instruments are not skilled; disease and pain thwart their efforts. They are not kings. And you are not a king if you are not master of yourself and your surroundings.

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We have a few dual characters in the profession. With their ordinary friends and at the chair they are urbane and smiling; in the laboratory they are rough and gruff. In their professional character they are esthetic and refined; when they throw off their professional coat they are low and ungentlemanly. In public assemblies and social gatherings they seem to be as pure as ladies; in their gatherings with their chums they are vulgar and profane. In their reception-room their pictures and books are elevating and instructive; in their private apartments the walls speak of vulgar passions and depravity. They pass for ladies' men, and would not defile the tips of their fingers in their company; privately they revel in an atmosphere of beer and tobacco.

Yet a man of high standing in the profession declares in his journal that "A man's private character is his own; it is with his professional character we have to do; that being acceptable, we have no business to look behind the curtain."

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The eye is so constructed that we see everything upside down; but we become so accustomed to this we are not deceived. Like this, the condition of society appears; in its confusion it seems upside down. Yet experience proves everything is not in as much chaos as it appears. There is a Providence that shapes our end; there are spheres within spheres that work out grandly the world's destiny with great system, and unerring purpose, and consummate wisdom.

"THERE WAS A MAN SENT FROM GOD WHOSE  
NAME WAS JOHN."

When we see some great man on the earth, one used of Providence to do some great work, we can conceive the idea that he was sent of God. But were we? It has hardly entered our thoughts that we are sent into the world to do some great work—that we are endowed with powers to do anything worth mentioning. What are *we*, and what can *we* do? We are but an atom on the earth's surface—of little account whether stepped on by some great foot or allowed to live. While a few men loom up and control the world, we of the multitude seem to roam here and there with little influence, purpose or power. A war, an epidemic or an earthquake that takes off a few thousand of us is of little consequence; but for a great man to die is a calamity.

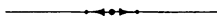
"There was a *man* sent from God." If we are insignificant, it is not because we were made so. As Adam waked up to possess a world, as "the man Christ Jesus came to redeem it," we are sent from God to both possess and redeem it. We cannot be an Adam in his innocence, or a Christ in His unsullied virtue, but we are each "a man sent from God," and great things are expected of us. If we are not equal to the task, it is because we have not aroused our powers—the tremendous powers sent in us, and with us, and for us. In us is a world of wonders; with us, is sent every facility to accomplish wonders, and for us, a world of wonders waits our manipulation.

"There was a man sent from God, whose name was *John*." We have not only a great work to do, but a specific work. It is not the work of any one else. It is the work of *John*—*you* are the man sent of God whose name is Henry or Mary. "His *name*," said Gabriel, "shall be called Jesus, because He shall save His people from their sins." So you and I are specially designated, *named* for some specific life-work and purpose. John was sent to go into the wilderness and cry, "Prepare ye the way of the Lord, make His path." So we are sent into the wilderness to cast up a highway for a greater than we to come after. He who does not

make the world better for him who is to come after, is not worthy of the world.

The first step in the beatitudes is—"they shall inherit the earth." The last step is—"theirs is the kingdom of heaven," and the inheritance of both must be by individual exertion. But don't let us expect to enjoy heaven before we conquer earth.

Let us feel honored that we can be victorious in both spheres. We have the ability to do it; let us have the courage, the aggressiveness and the tremendous energy to do it. We must so discipline, and cultivate, and possess ourselves and the world and its forces, as to make our home, our business, and our life a conquered kingdom.



### BLUNDERING.

I do not know how it is with others, but I am so full of blunderings I am ashamed of myself. When doing my best I am mortified at my blunders. It does seem as though others got along better. They write accurately, work skilfully, entertain sweetly, and, day after day, pass smoothly along, while I have to labor at my writing, stumble at my work, blunder in my politeness, and ever and anon say or do something that puts me to shame. At the very time I am congratulating myself that everything is lovely, up jumps some error to mortify me. If I did not have the conviction that on the whole I did improve a little at some point, in some way, I should despair indeed. And can you believe it? This is the confession of one of more than three score years—and still blundering! I do declare, few things I do please me as models for imitation. Even when I think I have done well, and put it aside as a finished product, in the future I take it up to wonder how I could have thought it good.

Ah, this is life. How humiliating! When we wake up in "His likeness" shall we not have improved vision, matured conception and greater power? It must be that here we are but children. How encouraging that there we shall be men!

## THE TWO VIEWS OF LIFE.

When from a human standpoint we view our situation in this world, how full of confusion, uncertainty, and disorder it is. The whole world is "without form, and void."

Doing our best we can bring about little harmony, check few evils, cure few ills. Our best devices are impotent, our wisest efforts fail, and our purest motives are as foolishness; our greatest sacrifices are fruitless, our life a failure.

And we?—are a part of the failure. Our judgment is unreliable, our reason treacherous, and our passions ungovernable; the strongest of us are pigmies, the wisest ignoramuses, and the most honorable, laughing stocks. We run to and fro, helpless and in the dark, without guide or chart, path or compass, the victims of every wind that blows, of every storm that howls, and of every miasm that infects the air. "Vanity of vanities," sayeth the preacher, "all is vanity and vexation of spirits."

But all this is from a human standpoint—short-sighted, distorted, confusing. Take another view from the standpoint of Providence. Now in the midst of all this confusion appears a far-seeing plan. Even in the physical world, substance comes from a void, beautiful forms from conflicting elements, progress from violent upheavals, and even life more abundant from destruction and death, till we see the grand display of a great world, with wheels within wheels, spheres within spheres, circles within circles, and cycle following cycle, each making its assigned rounds, bringing permanency, progress and perfection, all so wisely adjusted. So in the moral world. What a void there is within us till the great God moves on the elements of the soul and brings light? Though this war of elements brings only the light of fire, let us not complain if this brings a firmament out of which appears a great world. To bring about solidity and strength and maturity, there must be upheavals and conflicts and mighty changes; and to bring to the life fertility and an eden, there must be the decay of the useless of to-day, though this may have been the useful of yesterday.

Thus from destruction comes perfection. As we are in the midst of all these changes, it is confusion and conflict, and looks like the mere hap of circumstances; but as we pass them and look back, we see it is transformation from crudity to organization, and from the low animal to the high spiritual. The atmosphere we could breath yesterday is stifling to-day, the light that was sufficient yesterday seems twilight now, and the childish hopes of yesterday are crowded out by the glories that come as we rise to a purer atmosphere, and a brighter light, and a nobler life, as the days go by.

Yes, it is when we are thus fitted for our true sphere that we are permitted to enter it. Then, in the midst of confusion we see harmony; in the midst of distortion, beauty; and in the midst of conflict, peace.

This is a beautiful world to those who are beautiful, a happy world to those who are happy, and a home of love to those who are lovable. But we become beautiful by being happy, and we become happy by being lovable. It is then we find a delightful place in the grand provisions of Providence, and lose the human view for the heavenly, the false life for the true. Life's disappointments and misery and failures bring satisfaction, comfort and success. Life is what we make it.

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The habit of extracting bicuspid or first molars to give space to protruding or crowding front teeth is bad and useless practice. Back teeth will move forward, but it is seldom that front teeth will move backward. Even the space of an extracted central will seldom be filled by its fellow; though the lateral on the same side may leave the cuspid and come forward. The extracting of third molars to give more space for first or second molars is scarcely ever of any use, though the removal of a first molar is likely to cause the second and third to move forward, if the subject is young. But the tipping of the second molar as it moves forward is so often conspicuous and inconvenient that this practice is generally objectionable.



## HINTS.

We cannot do a thing half so well as we can show another how it should be done, but we can find fault much better than we can do better.

\* \* \*

The man who is full of faults can more easily see and prescribe for the faults of others than his own.

\* \* \*

Theory is welding together facts to form a chain. But some chains are illy and weakly put together; the test of their value is in their practical usefulness.

\* \* \*

Don't be concerned so much because your competitor works cheaper than you, if your work is better than his. The most sensible and best-paying people seek the best, not the cheapest dentist.

\* \* \*

It is said that the way to a man's heart is through his stomach; but I believe the way to a patient's purse is through his good-will. Even good work not accompanied with kind attentions is grudgingly paid for.

\* \* \*

Give the man with one idea a chance. If he has not the courage to step into the arena to proclaim it to the world—kick him into it. A good, healthy lift into publicity is all that is necessary to make a man of him.

\* \* \*

The overwhelming pressure of public opinion is fearfully oppressive to the man struggling with an idea. If the masses cannot be educated to respect new ideas and to lend their assistance to their promulgation and development, the only alternative is to use force of mind, common sense and personal pressure.

\* \* \*

It is a continual temptation to live after the fashion and opinions of those about us. It is much easier than to live a true and independent character. Yet, if we live our convictions, there is a temptation to live isolated, so as to escape the chafings of society. The strong man is he who adds to independence the bravery to live in society, and yet be proof against its scoffs and follies. But still better, the great man is he who adds to his independence and his bravery that suavity and ameliorating influence that imparts to the weak his strength, to the faltering his independence, and to the erring his virtues.

What seems very intricate to the novice is plain and easy to the man of skill. The experiences on the road between the two transforms the one into the other. That is a simple statement, but as true as simple. Yet how many remain novices because they do not travel that road. Where are you, my friend?

\* \* \*

Harmonious relations are worth more than money. Have both if you can, but have sweet harmony if you cannot have riches. We are just foolish enough to prefer a little home well filled with love, a modest office sacred to affectionate relations, and a general social relation full of good-will, to the riches of Cresus with a heart buried, or stony, or blighted. To love, and to be loved! Ah, that is life worth living.

\* \* \*

On the thoroughness with which a man has devoted himself to his general education depends a great deal his after success. Patients judge a man not more by the qualifications he possesses, than by his general demeanor and conversation. A man to be a successful practitioner must be in every way a gentleman, and to be a gentleman he must be educated.

\* \* \*

After everybody else is dead, "the man who cannot get a hearing" will have an opportunity to deliver his little speech.

Half-heartedness is the bane of civilization. If you have anything good, say it, and keep on saying. The self-sufficiency of one-half the average mortals keeps the other half in constant petulance. Never overlook the fact that the average citizen *thinks* he knows it all, though it is never *said*. If this were untrue, new ideas would be received with more sympathy and tolerance.

If Demosthenes had never possessed the courage to overcome his defective speech, the Roman Senate would not have tolerated him, and the world would have lost one of its greatest orators. Pliny himself was scorned for the courage of his convictions. Cornelius Tacitus, Marcus Aurelius, Antonius, Constantine, Theodosius, Justinian, all were subjected to the pressure of adverse criticism. Ericsson, Morse, Edison, and almost every scientist, has felt the leash of public ignorance and antagonism. Their names, however, are held to-day as examples of what man *can* accomplish by personal force and indomitable application.

It isn't necessary to sit on a cake of ice to keep burning ideas in a state of healthy preservation. Jump into the arena; work off the superfluous heat; demand a hearing; plank down your arguments, back them up with sturdy common sense, and the world will look from behind its newspaper and gasp: "That man's a brick!"

# FOR OUR PATIENTS.

## A PARTING ODE.

*(By a Little Girl, on Parting with Her First Tooth.)*

Good-bye, good tooth !  
You've done me faithful service in digestion,  
And always worked for me without a question.  
I leave you with a parting wrench of pain ;  
Good-bye, good-bye, we'll never meet again.

Why must we part ?  
There is but one thing fatal to some friendships,  
And often sadly fatal in near kinships ;  
It is a grumbling in old, ruined walls ;  
Of course the structure totters, groans and falls.

*Sarah Huse, Concord, N. H.*

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## ALPHA CENTAURI.

Let us consider the latest news from Alpha Centauri, which is 25,000,000,000,000 miles away. It is a double-star, and is the nearest seen outside of our own. It weighs twice as much as the sun. To the naked eye it appears as a single bright star, but with a telescope we can see the two stars composing it. One of them is seven or eight times as bright as the other. But the little star is evidently as heavy as the big one, for they slowly circle, keeping one another at arm's-length, around a point half-way between them. Astronomers have long known these facts, but lately they have extended and rectified their knowledge about Alpha Centauri. It now appears that the period in which those twin stars revolve around one another is eighty-one years—half the time required by the planet Neptune to go around the sun. Their orbit is very eccentric ; they close to within a distance of 1,000,000,000 miles apart, and then swing away from one another till they are separated by 3,340,000,000 miles. It must be remembered that this is the extraordinary conduct not of a pair of celestial sparks, but of two immense suns. When a little planet like the earth goes around a gigantic orb like our sun, the thing is quite simple ; the planet

does the traveling, and the sun, hardly feeling the tiny pull of its prisoner, stands practically still with respect to it. But when, as with Alpha Centauri, it is a case of sun swinging sun, things are very different. There is no standing still, or anything resembling it, with this bright pair.

It is possible that those two suns, whose gyrations command the admiration and test the skill of astronomers gazing on them from a distant part of the universe, may once have been strangers, moving, as it is known that our sun is doing, each along its own track through space. Having approached too closely, they might in such circumstances, become irrevocably bound together by their mutual attractions. But it is far more probable that they were formed from one original mass of primeval matter, as the four stars grouped in the middle of the Orion nebula have evidently been shaped by creative forces still in action around them.

In either case, what of the worlds belonging to the suns of Alpha Centauri? Astronomy furnishes no direct proof that worlds, planets like ours, exist there, and it furnishes no proof that they do not exist; but it does prove that the law of gravitation is obeyed there, and that consequently on a world having the same mass as the earth has, a man would weigh just as much in the Alpha Centauri system as he does in the solar system. Astronomy proves also that the light of Alpha Centauri resembles the light of the sun. Has it not the same vivific force also? We know how the sunbeams clothe the earth with life.

What a picture is presented to the imagination in supposing that such secondary worlds exist! Under the dominion of two equally powerful suns the orbit that such a world would travel in could not be a smooth elliptical track, but it might be a labyrinthine marvel. Now around one of the twin suns, and now around the other, it might go whirling. Suppose it to be situated so close to one of the suns that its center of revolution was never changed to the other, and imagine the alternation of conditions affecting its inhabitants, as, in company with its solar master, first retreats more than 300,000,000 miles from their blazing neighbor, and then, turning, rushes back, till the glare and gush of the light and heat of that other sun pouring on it are increased to a tenfold intensity.

But even if we cannot reconcile the situation of things in the system of Alpha Centauri with his conceptions of the requirements of habitable worlds, our mind must be impressed with the spectacle presented by so vast an expenditure of physical energy as those coupled suns display—an expenditure periodically intensified, it may be, by their tidal reaction as they strain in the leash of gravitation.

*Garrett P. Serviss, in Harper's Bazar.*

## ALWAYS WHITE.

A simple method is announced for obtaining a durable white paint, one that overcomes the general objection to white paint, viz., that on exposure to heat, and especially to gas-flames, lamp-shades, ceilings, etc., painted with oil colors, it soon turns brown, owing to the calcination of the organic matter contained in the colors and the linseed oil in the oil paints. In the new process a quantity of fine zinc white is mixed to a suitable consistency with a solution of protoxid of sodium and water-glass of forty to fifty degrees of Baume. The surfaces to be painted are first thoroughly cleansed, and for certain metals, such as zinc, washing with hydrochloric acid is necessary. The surface is subsequently cleansed with water, and then several coats of zinc water-glass paint are laid on till the article is deemed sufficiently covered, an interval being allowed, but not of long duration, between the application of each coat, as such paint soon dries. In case of a large surface, such as a ceiling to be covered, too much of the paint should not be mixed, as the chemical action of water-glass on zinc white is soon to render it thick and hard. This paint is represented as being unaffected, always remains snowy white, only becoming soiled by dust and soot.

*Ex.*

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**ARTIFICIAL PETROLEUM.**—One of the latest chemical discoveries is a method for the artificial production of petroleum. The success is simple and effective. It is the distillation of animal fats and oils at a temperature of 300° to 400° Centigrade, at a pressure of twenty-five atmospheres in a strong iron vessel. About seventy per cent of the fatty matter is transferred in petroleum, this being ninety per cent of the theoretical yield. The discovery is not of any commercial importance up to date, as the artificial product cost a great deal more than the natural product of the rock. But for aught any one is justified in saying to the contrary, all this may be changed within the next few years by the use of cheaper basic material, or because of the increasing scarcity of petroleum, or both.

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**DEATH FROM THE BITE OF A PATIENT.**—A case of considerable interest to both physicians and dentists lately occurred in Berlin. A young dentist, Dr. Bernstein, extracted a tooth for a lady patient. In some way she suddenly closed her mouth, biting his finger. A few hours later, intense pain and swelling ensued, and the finger was promptly amputated. But despite the operation and every other remedial measure that the physicians could apply, death occurred on the third day, from septicemia.

## POSSIBILITIES OF SPEED BY STEAM.

In his recent inaugural address, the President of the French Society of Civil Engineers, M. du Bosquet, pointed out that express trains daily attain 75 miles an hour on down grades, proving that such speeds are not dangerous. But the engines are not sufficiently powerful to maintain such speeds on a level. A drawbar pull which would give 75 miles an hour on a down grade of 1 in 200 would give only  $57\frac{1}{2}$  miles on a level and  $31\frac{1}{4}$  miles on an up grade of 1 in 200. A slight increase in the average speed greatly increases the power required. If 322 horse-power will draw a train at 50 miles an hour up an incline of 1 in 200, for a speed of 125 miles 2,960 horse-power would be necessary. High speeds, moreover, increase the weight of the engines per horse-power, and there is a limit beyond which the engines could not move themselves. At their maximum power the modern French locomotives weigh about 150 pounds per indicated horse-power; but a similar engine of 150 tons generating 2,000 horse-power would be required to draw a train of 100 tons up a slope of 1 in 200. The highest possible speed for such an engine and train up the slope should be  $87\frac{1}{2}$  miles an hour, and for this the engine would weigh 670 tons and would generate 8,932 indicated horse-power. *Ex.*

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FOR THE SOUTH POLE.—Dr. John Murray's proposed expedition to the south pole is attracting favorable attention in Europe. It is more than fifty years since James Ross, after discovering Victoria, penetrated to the 78th degree south latitude, and since then, with the exception of the Challenger, hardly a vessel has gone that way. The present proposal is indirectly due to the reports brought by a couple of Scotch whalers which, in 1891, went southward of Cape Horn in their search for fresh hunting grounds. Dr. Murray believes in the existence at the south pole of a continent as large as Australia, in which are to be studied the two great phenomena of glaciation and volcanic action.

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Vaselin is excellent to rub on the gums in case of sloughing.

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Ordinary cotton, with its native oil adherent, is better to fill a root than that made absorbent by the removal of all oil.

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"What is the matter with the baby?" asked a lady of a little girl whose baby brother she had understood to be ailing. "Oh, nuth'n' much," was the answer. "He's only hatchin' teeth."

## THE PATH OF FAME.

Response to a toast at the Annual Banquet of the Alumni Association of the Chicago College of Dental Surgery.

The Path of Fame, which leads to the Temple of Honor! Ah, who does not long to tread its alluring, though thorny track? It climbs to dizzy heights, and winds past awful precipices. There are craggy obstacles in the way, and the course too often is slippery; but these are insufficient to deter the ambitious. There are many of these paths, but all are alike in the difficulties which they present.

There is the way of military renown, which leads through fields of blood and is studded with swords and pikes and guns. There is that of literary excellence, besieged by the bloodhounds of envy and all uncharitableness, and which leads through seas of midnight oil and oceans of wasted ink. There is the road of mercantile and business success, which is so blocked by the wrecks of fortune and strewn with fragments of blasted hopes as to be well nigh impassable. There is the passage of art, so dark, so narrow, so cold, so desolate, that the sunshine of favor too often comes only to shine on the grave of him who in poverty and toil has painfully threaded its upward course.

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ANCIENT MINERS FOUND AS THEY LAY.—The *London Standard's* Shanghai correspondent quotes a report from the district of Hsing Knochow, in the neighboring province of Anhui, where there are extensive coal workings. A party of miners recently struck an ancient shaft, where history records that a great catastrophe occurred 400 years ago, the records being preserved among the local archives. The miners, on re-opening this old shaft, came on upward of 170 bodies of the former workers, lying where they had been overcome with foul gas four centuries back. The corpses were as if those of yesterday, quite fresh looking, and not decayed in any way. The faces were like those of men who had only just died. On an attempt being made to remove them outside for burial, they all crumbled away, leaving nothing but a pile of dust and the remnants of the stronger part of their clothing. The miners, terrified, fled from the spot, and though there were valuable deposits of coal in the shaft, nothing would induce the superstitious men to return to their work.

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In using nitrate of silver, should an accident occur, use common table salt in solution to wash out the mouth.

D. V. Beacock.

## NOTICES.

At the twelfth annual meeting of the North Dakota State Dental Society, held at Grand Forks, June 20th, 21st and 22d, the following officers were elected for the ensuing year: E. M. Pierce, Hillsboro, President; R. B. Foster, Grand Forks, Vice-President; C. L. Rose, Fargo, Secretary; D. B. McLain, Jamestown, Treasurer.

*C. L. Rose, Sec'y, Fargo.*

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At the thirtieth annual meeting of the Missouri State Dental Association, held at Excelsior Springs, July 10th-13th, 1894, the following officers for the ensuing year were elected:

Dr. J. T. Fry, Moberly, President; Dr. D. F. Orr, Liberty, First Vice-President; Dr. W. L. Reed, Mexico, Second Vice-President; Dr. W. M. Carter, Sedalia, Corresponding Secretary; Dr. S. C. A. Ruby, Clinton, Recording Secretary; Dr. James A. Price, Savannah, Treasurer; Dr. James A. Price, Savannah, Committee on Law.

*W. M. Carter, Corresponding Secretary.*

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The First District Dental Society of Illinois meets at Peoria, September 11th and 12th. A thoroughly practical program has been prepared, and an instructive meeting is expected. Every member is requested to come prepared to offer something practical gleaned from his practice.

*W. O. Butler, LaHarpe, Secretary.*

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Recently I was invited into the operating-room of a prominent Chicago dentist, and the simplicity of his equipment was only equaled by the excellence of the work he was doing. It is every one's experience that the more proficient he becomes in his art the fewer are the implements he requires for any special purpose. A dental office should be furnished in a manner that suggests comfort more than luxury. Any tendency to the latter extreme may create an impression on even wealthy patrons that your prices are probably as luxurious and uncalled for as your surroundings. Good pictures are so easily obtained that one neglects a very elevating influence if they are not employed. The general tone or coloring should be of a warm red or a cheerful yellow; avoid blues and browns. The effect of color on one is very subtle, but nevertheless it has a strong influence on one's feelings and emotions.

*Dr. Bergstresser.*